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2 August 1983

Worldwide Report

ENVIRONMENTAL QUALITY

No. 407

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GOVERNMENTS PLAN, ACT ON CONSERVATION IMPROVEMENTS

Victorian Cabinet Shift

Melbourne THE AGE in English 10 Jun 83 p 1

[Article by Rosslyn Beeby]

[Text] Victoria's Minister for Planning, Mr Evan Walker, has lost the portfolio of Conservation in a minor Cabinet reshuffle.

In the reshuffle, announced yesterday by the Premier, Mr Cain, Mr Walker receives a new portfolio, provisionally called Planning and Environment.

Mr Walker will retain control of the Environment Protection Authority and environment planning bodies, but will lose several important departments, including National Parks, Fisheries and Wildlife and the Soil Conservation Authority.

The Minister for Forests, Mr Rod Mackenzie, will take over the Conservation portfolio, which will be amalgamated with the Department of Forests and Lands.

Victorian conservation groups have strongly criticised Mr Walker's handling of conservation issues, and most groups last night welcomed the change.

The director of the Australian Conservation Foundation, Dr Geoff Mosley, said last night he had been "very disappointed" with Mr Walker's performance. Mr Mackenzie's appointment gave conservationists "hope for a new deal", he said.

Announcing the change yesterday, Mr Cain said the move was designed to make the Government's structure more efficient, and reflected the Government's overall objectives to reduce the number of Ministries.

Four Government departments, Planning, Conservation, Forests, and Crown Land, would be restructured to form two new Ministries, he said. The new departments provisionally would be called Planning and Environment, and Conservation, Forests and Lands.

"There has been an urgent need for an effective reorganisation of these departments and their functions for some time," Mr Cain said. "This is not a staff-cutting exercise in any way. What we are doing is restructuring staff and functions to operate at the most effective level."

Mr Cain also announced the creation of the new position of environmental commissioner. The commissioner's duties would include responsibility for producing annual reports on the state of the environment, he said.

Mr Walker's responsibilities have been considerably diminished under the new arrangements. While Mr Mackenzie gains control of several of the larger conservation departments, Mr Walker's only gains are the Department of Coastal Management and the Port Phillip Authority.

Gain for Victorian Conservationists

Melbourne THE AGE in English 10 Jun 83 p 5

[Article by Rosslyn Beeby]

[Text] The former Minister for Conservation, Mr Evan Walker, had a strained, often stormy, relationship with Victoria's conservation groups.

And yesterday most welcomed the news that he had lost the portfolio to the Minister for Forests, Mr Mackenzie, who has a strong personal interest in conservation.

The director of the Australian Conservation Foundation, Dr Geoff Mosley, said last night that Mr Mackenzie's appointment was "a good move".

He said he had found Mr Walker's handling of several key conservation issues, including protection of the Alps, "very disappointing".

"But he's history now," he added. "I believe we've got a good man now with Mackenzie. We're hoping for a new deal and a more powerful hand for conservation in Cabinet."

The director of the Conservation Council of Victoria, Mr Peter Brown, said he believed Mr Walker had met strong opposition in Cabinet to conservation proposals because of the Government's eagerness to pursue economic development and employment. But this could not excuse Mr Walker's poor performance, he said. "On the whole, we've found him not as well informed as we would have expected on some key issues," he said.

Mr Walker's first big clash with conservationists came after he approved three ski resort developments worth a total of $165 million at Mt Hotham. A Fisheries and Wildlife report, released simultaneously with news of the development, described the area as sital to the preservation of the rate mountain pygmy possum.

Other areas of criticism included plans to approve a big quarry in the Cobberas-Tingaringy National Park, and refusal to review the Dutson Downs sewerage farm licence to discharge industrial waste into the Gippsland Lakes.

Stalemate in Canberra

Sydney THE SYDNEY MORNING HERALD in English 11 Jun 83 p 6

[Text] CANBERRA. — Hopes of a consensus on a draft national conservation strategy were set back yesterday when a major conservation body described it as bland and vague and industry strongly resisted foreshadowed changes.

More than 150 delegates, from all levels of government and some of Australia's biggest resource companies, yesterday began a four-day conference to discuss the draft.

The plan for a national conservation strategy to sustain living resources, such as forests, farm land and fisheries, and to protect the natural environment, was initiated by the previous Federal Government.

This was in response to a world conservation strategy prepared by

the United Nations with other bodies and adopted by Australia in 1980.

Conservation organisations claim the strategy has been watered down by the Department of Home Affairs.

As late as Thursday there were calls from some sections of the movement for the conference to be cancelled and the draft plan re-written.

Industry representatives, on the other hand, say the draft now before the conference is a significant improvement on aspects of the previous documents, which they argue would have caused development to stagnate.

The chairman of the Confederation of Australian Industry's trade council, Mr Warren Adcock, said industry delegates were not prepared to accept any proposal which placed too much emphasis on conservation to the detriment of development.

He is expected, along with specific industry associations and companies including the mining giants CPA and EZ Corporation, to resist moves for setting out more clearly defined legislative responsibilities of government and a specific program for action.

He argued that the strategy should be confined to broad principle and said moves would be made by industry representatives to make some sections of the latest draft less specific.

He rejected calls for more formal procedural requirements for development approval, stating that specific proposals were a matter for the States within the basic guidelines of the strategy.

The chairman of the Australian Conservation Foundation, Mr Murray Wilcox, complained in his opening address that the draft strategy attempted to be all things to everyone, rendering it ineffective.

It needed to be sharpened up, he said, by specific measures to ensure that living resources were harvested or used at a sustainable level.

A large number of amendments, some of them relating to legislative initiatives, have been circulated, and spirited debate at workshop sessions is expected during the weekend.

Mr Wilcox said "It is, I think, no secret that many people in the conservation movement — and I am one of them — regard the present draft as inadequate.

"There are significant omissions. The draft has nothing on population policy, surely one of the major factors in considering the relationship between people and the Australian natural environment.

Plans in West Australia

Perth THE WEST AUSTRALIAN in English 15 Jun 83 p 1

[Text]

THE WA Government plans to monitor environmental pollution and will seek power to take effective action against offenders.

It is moving to put more teeth in WA's environmental legislation because it thinks that the law is unenforceable in its present form.

The Minister for Environment, Mr Davies, has started an overhaul and expects to put amending legislation before Parliament in the session starting next month.

He said yesterday that the Government was anxious to correct deficiencies in the law. It was unenforceable because of the way it was written.

Some restructuring of the Department of Conservation and the Environment and the Environmental Protection Authority might be needed, he said.

Mr Davies has had talks with the department about shortcomings in the law and has had informal talks with the Confederation of WA Industry and the Conservation Council of WA.

Seminar

He hopes that a public seminar on July 14 on environmental impact assessment and procedures will contribute ideas to help the review.

The director of the Department of Conservation and Environment, Mr Colin Porter, said yesterday: "The Act is inappropriate for the sort of things that the department and the EPA do.

"What the EPA has done over the past 12 years has been almost in spite of the Act rather than because of it.

"If you take out the general provisions, and those creating bodies, about 75 per cent of the operating sections of the Act cannot be used and have never been used because of fundamental deficiencies."

Mr Porter said that when the Act was written in 1971, few people

knew much about environmental protection.

About 80 per cent of the WA law was taken from the Victorian Act which was designed to bring all pollution-control responsibilities under one agency.

In effect, the Victorian Act was solely for pollution control.

"Most of our Act relates to pollution control, but the basic powers to control pollution were left out," Mr Porter said.

The Victorian law made pollution an offence and empowered its EPA to prosecute.

CSO: 5000/7592

CHINESE SOIL SALINITY CONTROL METHODS MAY BE APPLICABLE

Perth THE WEST AUSTRALIAN in English 13 Jun 83 p 18

[Text] CHINESE methods of controlling soil salinity could be used in WA, the Department of Agriculture's commissioner of soil conservation said yesterday.

Dr Graeme Robertson has just returned from a three-week visit to China sponsored by the University of WA and the Chinese Academy of Science and Technology.

He said that agricultural areas in China's north-west had salinity problems similar to those in parts of WA.

China had about 60,000 sq km of salt-affected land. Succesaful reclamation work had been carried out by well-pumping and drainage to lower the water table.

Because of the availability of labour, the Chinese were using open-ditch drainage rather than the plastic pipe drainage being used in WA experiments.

But the objective was the same—to lower the water table and allow leaching of the accumulated salts from the soil profile.

Dr Robertson said that the Chinese were stressing the need for a coordinated approach to saline-land reclamation.

This included water-logging control, drainage, improved crop rotations and tree-planting.

Several large reclamation projects covering 50 to 100 sq km were already under way and more were planned.

The Government was providing finance for capital equipment and local communes were responsible for carrying out the projects.

Within two or three years after the start of the programmes, some areas had been brought back into production.

CSO: 5000/7592

FOREST DEFENDERS WIN FIGHT OVER SHANNON RIVER BASIN

Perth THE WEST AUSTRALIAN in English 4 Jun 83 p 20

[Text] WA conservationists this week won a nine-year battle to preserve the Shannon River Basin.

The State Government said it planned to plant 5 sq km of pines a year to enable the timber industry to keep operating.

The pine plantations will be in the Manjimup area on land already cleared.

The Government is considering leasing land from farmers and using land in catchments areas subject to clearing bans.

The Campaign to Save Native Forests and the South-West Forest Defence Foundation both applauded the decision yesterday.

The companies using karri from the area and the Forest Products Association reacted cautiously to the announcement.

Success

The Government proposal is a significant success for the Premier and Minister for Forests, Mr Burke.

The issue has been an extremely sensitive one in the ALP. In 1980 the ALP State conference agreed to include in its party platform a commitment to a Shannon River Basin reserve.

Last year, attempts to water down the commitment were supported by Mr Burke, who argued that the commitment could be electorally damaging.

The party endorsed the ban on logging in the Shannon but maintained the resource base to the timber industry.

Since winning government in February Mr Burke has had to find a solution within confines of ALP policy.

Under the Government's plan, timber-industry production will be maintained at current levels.

Logging operations in the Shannon River Basin will be relocated to areas that the Forests Department has already designated for timber production.

In the longer term, the industries resources will be protected by the pine plantings.

CSO: 5000/7592

CARNARVON SHIRE WORKING TO SAVE CORAL BAY DUNES

Perth THE WEST AUSTRALIAN in English 9 Jun 83 New of the North p 4

[Text] "Save the sand dunes of Coral Bay" is the latest mission of the Shire of Carnarvon.

Working in conjunction with the Department of Conservation and Environment the Shire has undertaken the foreshore management of Coral Bay at a cost of $14,000.

The project involves fencing-off sand dunes from the public to allow for re-vegetation of the dunes, the building of three walkways to the beach the construction of a carpark, setting aside an area for swimmers and erecting signposts for tourists.

The head of the project, Carnarvon shire design and construction engineer Mr Jeff M Eachen, said this is the first time the Department of Conservation and Envi.. ment had given money for the protection of a coastal community in the Carnarvon region.

"The shire has been concerned about the area for over five years, as the limited beach area of this resort is in danger with the increasing number of tourists visiting the bay each year," he said.

"The rate of erosion of the sandhills is becoming worse by the year, with people camping everywhere and forging trails to the beach without concern for the vegetation.

Grant

"With a grant of $10,000 from the department, the foreshore management committee was able to clamp down on indiscriminate camping, and start the works programme in conjunction with the improvement of the Coral Bay Road."

Visitors to Coral Bay this season would see a new look resort, completed by shire workers last week, Mr McEachen said.

The foreshore management of Coral Bay would continue in a maintenance capacity.

CSO: 5000/7593

BRIEFS

SOIL CONSERVATION--Canberra.--The Federal Government yesterday reaffirmed its commitment to establish a national soil conservation program. The Home Affairs and Environment Minister, Mr Cohen, said the Government estimated it would cost $1.6 billion to overcome Australia's soil degradation problems. "It's a problem facing everyone, not just the farming community," he said. "Many urban dwellers have no idea of the dangers to our entire economy if soil erosion is allowed to continue at its present rate." [Text] [Brisbane THE COURIER-MAIL in English 6 Jun 83 p 10]

MURRAY SALINITY STUDY--Sydney: A team of five NSW Government officers has been formed to investigate the problem of increasing salinity threatening the Murray River ecological system. Announcing the decision yesterday, the Minister for Agriculture and Fisheries, Mr Hallam, said that this would be the first group to work exclusively on the salinity. The decision resulted from discussions held at Mildura in the weekend between the Federal Minister for Primary Industry, Mr Kerin, and Agriculture Ministers from NSW, Victoria and South Australia. Mr Hallam said last month that the threat posed by salinity to the Murray River as a life-support system was the most serious environmental problem in the country. The team, to be based at Deniliquin, was intended to be a permanent fixture and would work closely with its Victorian counterparts. The areas of investigation would include on-farm practices to conserve and reuse irrigation water, the development of evaporation tanks to lower the water table and raising awareness of the significance of trees in helping to solve the problem. [Text] [Perth THE WEST AUSTRALIAN in English 9 Jun 83 p 41]

QUEENSLAND OIL SLICK--Canberra.--Emergency measures are being taken to combat a large oil slick sighted near the national heritage region of Fraser Island on the Sunshine Coast of Queensland. The slick is about 20 kilometres long and 200 metres wide, and action under "the national plan to combat pollution of the sea by oil" will be taken to disperse or remove the oil. The slick was first sighted yesterday by the Department of Transport lighthouse keeper at Double Island Point, at the southern tip of Fraser Island and just north of Noosa Heads. The Minister for Transport, Mr Morris, has asked for an analysis of recent shipping movements in an effort to find the origin of the pollution. Samples of the slick have already been taken for examination to help locate the polluter. The polluter faces severe penalties if found guilty. The Federal Government would almost certainly take such an offender

to court. Under the national plan to combat oil pollution, a number of stockpiles of dispersants is available for use. The plan relies primarily on chemical dispersion to combat oil pollution, but also allows for the use of physical recovery of oil from the sea in cases where such a course is safe and practicable. One result of the sighting of the oil by a lighthouse keeper may be an increase in pressure on the Federal Government to abandon plans to automate all lighthouses. It has been argued that one vital role keepers play is as watchdogs over such things as sea pollution and safety. [Text] [Melbourne THE AGE in English 9 Jun 83 p 3]

EPA PESTICIDE STUDY--The Environment Protection Authority will consider prohibiting or restricting the use of some agricultural pesticides after finding high levels of DDT in fish caught in tributaries of the Yarra. The chairman of the EPA, Mr Jeffrey Wright, told a meeting of the Clean Air Society yesterday that studies revealed that two pesticides, DDT and dieldrin, existed at problem levels in agricultural catchments. A recent EPA study of streams in the Upper Yarra catchment found that maximum DDT residues in fish frequently exceeded the recommended limit for human consumption. High levels of dieldrin also posed water quality problems. The two-year study found that levels of dieldrin, a chemical used to control pests in potato and carrot crops, exceeded those recommended by the EPA for protection of stream life. The study, which is believed to be the most detailed of its kind undertaken in Australia, claims that the use of agricultural chemicals must be controlled or prohibited to reduce pollution of rural waterways. An EPA spokeswoman said yesterday that effluent from vegetable washing plants had been identified as the sources of pesticide residue in the catchment area studied. She said the amount of DDT and dieldrin found in the water was small and did not generally affect the quality or safety of drinking water. However, undiluted runoff from cultivated land "could exceed health criteria on occasions". [Text] [Melbourne THE AGE in English 10 Jun 83 p 5]

FLOOD SOIL EROSION--Queensland's April and May flood rains caused soil erosion totalling 36 million tonnes, according to a Primary Industries Department report. The replacement value of the nitrogen content in the lost soil was $14,400,000. The Primary Industries Minister, Mr Ahern, said yesterday the report estimated the state-wide loss this year to be 52 million tonnes. The report found that if adequate soil conservation measures had been operating in the flood areas, the estimated loss would have been reduced by at least 65 percent. The report found an average soil loss of 46 tonnes a hectare in affected land. The highest average topsoil loss, 78 tonnes a hectare, occurred in bare, fallow paddocks without contour banks. The worst affected areas were the grain growing Dawson-Callide and Bauhinia areas of central Queensland, with some paddocks completely devastated. Mr Ahern said to demonstrate the size of the problem, the loss of 36 million tonnes of soil was equivalent to 12,000 ha of land losing topsoil to a depth of 30 cm. [Text] [Brisbane THE COURIER-MAIL in English 13 Jun 83 p 1]

ROTTNEST REFORESTATION--Forty members of the Men of the Trees organisation planted 1200 trees at Rottnest Island during the weekend. The Minister for Employment, Planning and Administrative Services, Mr Parker, took part in the ceremonies at the north side of Herschell Lake and City of York Bay. This is one of nine winter plantings by the group to help the Rottnest Island board with reforestation. The chairman of the north suburban group of Men of the Trees, Mr M. J. Norman, said that the island was once covered by an almost impenetrable forest of tea tree and cypress. Their loss was just one of many examples of how white settlement had changed the face of the land, Mr Norman said. [Text] [Perth THE WEST AUSTRALIAN in English 20 Jun 83 p 27]

ENDANGERED LIST FOR TASMANIA--The Tasmanian Wilderness Society has written to the World Heritage Bureau asking that South-West Tasmania be placed on the list of world heritage in danger. The society's information officer, Mr Vince Mahon, said yesterday it was important that the bureau had information on the "unwarranted" speeding up of work on the Franklin Dam before its annual meeting which starts on 27 June in Paris. There would be national and international ramifications if South West Tasmania was placed on the danger list, Mr Mahon said. If the building of the dam proceeded there would be no reason for the area to remain on the world heritage list; Australia would be the first country to have an area removed from the list. This would be "to the shame of our nation," he said. Mr Mahon said the society had Hydro Electricity Commission documents which showed that in October last year the HEC had planned to spend about $11 million on the dam this financial year, but had later increased this to $20 million. Even under the revised spending estimates the HEC was three weeks ahead of schedule. Mr Mahon would not say whether he thought the society's action would influence the High Court's deliberations. "I am sure the HEC believes that it is influencing the proceedings by working at an unwarranted speed and saying that they have already spent $20 million on the dam," he said. [Text] [Melbourne THE AGE in English 14 Jun 83 p 3]

HERBICIDE IMPACT STUDY--The Primary Industry Association wants immediate research undertaken to establish the relationship between some illnesses among farmers and the use of herbicides in crop-weed control. It says that no research institute in Australia is seeking answers on a satisfactory method of protecting farmers who use herbicides. It wants Australian scientists urgently to raise the matter, with the financial support of the industry. "We have heard of reports of stomach upsets and even fingernails falling off," said the association's deputy director, Mr Graham Lawrence. "We suspected that it is from herbicide use, but we do not really know. "We are hoping that research can positively establish the relationship of such illnesses, for which farmers often do not seek treatment, and herbicide use. "There is also increasing concern about experimentation by farmers mixing herbicides for spraying. "Such cocktail mixtures are a real worry. "With about 75 percent of herbicides applied from the ground in WA, it is obvious that operator exposure is massive. "We would also like to see a system that can totally filter all air coming into the cabs of tractors and trucks used to apply herbicides." [Text] [Perth THE WEST AUSTRALIAN in English 18 Jun 83 p 14]

CSO: 5000/7594

GOVERNMENT DRAFTING ANTIPOLLUTION LEGISLATION

Auckland THE NEW ZEALAND HERALD in English 25 May 83 p 16

[Text]

NZPA Wellington

The Government is drafting legislation which includes heavy penalties for spillages causing pollution.

The Minister of Works and Development, Mr Friedlander, in a speech prepared for delivery at New Plymouth last night, said penalties would be overhauled in water and soil legislation to be brought before Parliament this year.

Mr Friedlander said he was determined that new penalties should more than adequately fit the offence.

Where anybody or any organisation persistently and regularly breached any planning regulations the fines involved should be substantial, he said, and statutory bodies concerned should be able to recover costs fully.

"I also wish to ensure there is adequate provision to reassess a planning consent if that should become necessary."

The minister said the legislation was being worked on and he expected to introduce the measures soon.

The Government last month voted down a bill from the Opposition environmental spokesman, Dr Michael Cullen, which aimed at increasing pollution penalties.

Dr Cullen's bill wanted fines for an initial offence increased from $2000 to $100,000 and for a continuing offence from $100 a day to $5000 a day.

The Government allowed the bill to be introduced, but prevented its going to a select committee.

The Minister for the Environment, Dr Shearer, last week called for substantial fines for chemical pollution.

"Until we start talking about very large amounts we are simply playing with the problem," he said.

"We must give real force to the 'polluter pays' principle by hitting offending companies and corporations where it hurts."

CSO: 5000/4340

COOPERATIVES URGED TO UNDERTAKE REFORESTATION WORK

Havana GRANMA in Spanish 9 May 83 p 3

[Article by Orlando Gomez]

[Text] The approximately 300 Agricultural Production Cooperatives (CPA) located in our mountainous regions--and especially those growing coffee, cacao and food crops for their own consumption--have already demonstrated in a short period of time that they are more efficient than the small, individual farms of the campesinos. Almost since their first year of existence, they have raised the material and cultural standard of living of their members.

Virtually everyone in Cuba is convinced that in order for the mountainous areas to develop integrally in all areas, not the least of which is forestry, and in order for the people to achieve economic, social and political progress, the cooperative movement must be strengthened and intensified.

When the hardworking mountain people unite their fertile land, housing and valuable experience in a larger, socialist collective enterprise such as a CPA, to work and live together for the same objectives in their cooperative, many of their rightful aspirations and current needs begin to be met effectively.

Current Status of Reforestation

Judging from soil conditions and the contour of the land, 25 to 33 percent of Cuba's territory should be forested, according to national and international organizations (FAO and others) specializing in this vital problem of mankind. The most recent data show that only about 14 percent of our country comprises forested areas, including the adjacent islets.

However, even these statistics do not accurately reflect how critical the status of our forestry resources is, since most of the current forests and planted areas are located in the provinces of Pinar del Rio, Matanzas, Holguin, Guantanamo and Isle of Youth, and are thus unevenly distributed over the territory. These provinces have 58 percent of the nation's forests.

Moreover, the negative forestry heritage of our colonial and neocolonial past, which still weighs heavily on these resources, has also led to a

scarcity of valuable wood species and an imbalance in the composition of our forests by age. Our major forests are young, and large trees and valuable species are rare.

If we add to this the impact of wooded areas on the environment, on regulating the rainfall, protecting the fertility of the soils and the distribution of groundwater, preserving wildlife, camping, tourism, and many other aspects beneficial to society, we would reach the conclusion--as our country's leaders did some time ago--that this problem must be dealt with urgently.

At present, a lot of work is going on in this direction in all the provinces and in the Isle of Youth, beginning with a determination of the areas to afforest and reforest, the selection of the best seeds of tree species, nurseries, planting, production of plastic sacks, and a number of other forestry jobs.

Since there are hundreds of CPA's in valleys, flat lands and on the sides of our mountains, and their number and membership are constantly increasing, the responsibility for improving our nation's forest resources fall on them to a great degree. Therefore, for the reforestation plans of these cooperatives to be successful, in quantity and in quality, their boards of directors and members must heed the following recommendations, using their extensive practical experience in dealing with the land:

--The CPA land where the trees are to be planted should be selected, and the most appropriate species for the type of soil and location on the mountain should be chosen, preferably with the help of an expert.

--Where tree nurseries are to be set up in a CPA, they should be located on the most appropriate land and laid out according to technical guidelines.

--The land where the trees are to be planted should be prepared as required and should be ready for planting during the first months of the next rainy season, to ensure a high survival rate.

--The planted areas should be kept free of weeds.

Other Essential Guidelines

Every CPA should follow the principle that each time a tree is cut down on its territory, for a justified need, it will be replaced by two or more trees in another appropriate part of the cooperative. Thus, not only will the areas planned for forests be replanted, but also wood or fruit trees will be planted in marginal farming areas, alongside banks of rivers and streams, roads, factories and settlements, or anywhere it is possible to plant them.

To reforest marginal and idle land, the CPA's will locate the land that is not committed to agricultural development. It should do this immediately to decide the species of trees to be planted and to ensure the quality of the plantations.

These collective farm enterprises will use their own means and forces to do the planting and the later maintenance work. Their members will make sure that the plants are not damaged and shall do the forestry work in their own areas as well as those of the enterprises, if their assistance is required.

The CPA's in mountainous areas will plant the land belonging to them, always with the technical assistance of forestry specialists.

The state enterprises will be responsible for producing the necessary seedlings in the event the cooperatives require this support. In the cooperatives selected, tree nurseries will be built to produce their own seedlings. This is an important aspect of the program, and the cooperatives selected should give priority to this task, creating the appropriate conditions to produce the best plants at a low cost.

The government will provide these cooperatives with the financial resources needed to cover their expenses in reforesting their collective land. The producing forests will receive long-term bank credit, while the development of protective forests will be financed from the national budget. Once a CPA defines the areas to be afforested and the species to plant in them, the required credit will be arranged at the closest bank office.

Another important area where the CPA's should intensify their activities is in planting fruit trees and establishing nurseries to develop these new seedlings, in accordance with the plans for each area of the cooperative.

The crops should also be planted according to the type of soil (one area for coffee, another for cacao, trees, apiculture, and garden farming). For the fruit tree nurseries, and especially for grafting plants, teams of women in the cooperative should be trained, since the women have proven themselves to be much more efficient in this delicate work than the men. This was seen in the cacao plantation in Baracoa, a town in Guantanamo.

The success of reforestation in mountainous regions over the next few years is closely related to the development of the cooperative movement, because the CPA's unquestionably have the means to successfully carry out this important work, discussed by the Second Party Congress, the Sixth ANAP [National Association of Small Farmers] Congress, and the Sixth Plenary Meeting of the Central Committee.

9805
CSO: 5000/2038

COUNTRY'S LARGEST RESERVOIR DRYING UP, POLLUTED

Mexico City EXCELSIOR in Spanish 9 Jun 83 pp 1, 14, 31

[Article by F. Meraz and E. Chimely: "Man Is Killing Chapala Lake"]

[Text] Chapala, Jalisco, 8 Jun--It is a dramatic sight from the air: Between the dazzling foliage of the mangroves and the vast mirror formed by its tranquil waters is an enormous strip of beach over 300 meters wide, demonstrating the death throes of Chapala Lake, the country's largest reservoir.

It is a lake dying of thirst! "Not only is it dying of thirst, but it is doomed," notes geologist Enrique Estrada Faudon, director of the University of Guadalajara Institute of Geography and Statistics. "Look, this strip of sand has increased over 50 percent this summer. If we do not take urgent measures, it will be reduced to a sandy, useless swamp in a few years, putting an end to what was a veritable source of riches."

Five years of consecutive drought, the irrational diversion of water which, by means of the Lerma River, is taken to supply the city of Guadalajara, the states of Queretaro, Guanajuato, Michoacan and part of the state of Mexico, industrial waste dumping from the manufacturing zones of Salamanca, the industrial corridor of El Salto-Ocotlan, organic waste from 40 towns along the shores, along with hundreds of hog farms and regular farms, have all combined to choke the lake and reduce the original reservoir by 60 percent. The Upper Lerma is now a dead river for 5 kilometers from Michoacan to Chapala.

This picture will be presented to President Miguel de la Madrid tomorrow.

Based on studies by the Secretariat of Ecology and City Planning, the death throes of Chapala Lake have also had an alarming effect on fishing, especially for catfish, *el blanco* and *charal* [small Mexican fish], as well as on tourism and agriculture. However, there is the additional threat of water shortages for the people in the Chapala region, numbering scores, and the entire Upper Lerma Basin, which also supplies part of the Federal District and the urban zone of the State of Mexico.

Estrada Faudon warns that the most serious element is that it is not nature that has sacrificed Chapala Lake, but man himself. The main factor contributing to its death is the poor management of aquatic resources. The Lerma River

is the main source supplying water to the lake, but its flow has been diverted to serve all these cities and it is poisoned and obstructed by industrial waste.

To date, all efforts to save Chapala Lake have been futile. It did not even do any good last week when, at the urging of Father Ramon Hernandez, the local priest, a solemn procession was made to the Virgin of Zapopan with canticles hymns and incense, a procession in which 400,000 peasants participated, asking the Virgin for a miracle like the one which occurred in 1955. At that time, the low water level had turned the lake into a swamp and was saved by a heavy rain after a procession to the Virgin. This year, no miracle occurred.

In the opinion of Estrada Faudon, there are still hopes for saving Chapala. We still have time to carry out the necessary projects so that mud and pollutants will not displace the water. However, the most urgent thing is not to dredge the lake, but to save its tributaries.

In addition to the diversion of the Lerma River to supply nearly 100 urban areas, every year some 300 million cubic meters of water are taken from Chapala Lake to supply Guadalajara, 160 million cubic meters for agricultural irrigation, 5 million for industries, independently of 2,000 cubic meters lost to evaporation. These figures are increasing in an alarming fashion, says Alejandro Casillas, technical coordinator of the Society To Save Chapala Lake.

All this has combined to reduce the reservoir capacity by nearly 60 percent The lake therefore has only one-third its previous capacity.

At the meeting to be held on the shores of the lake by President De la Madrid, restaurateurs, hotel owners, fishing cooperatives, common land commissioners, manufacturers and representatives of state and federal drinking water organizations will stress to President De la Madrid the need to adopt urgent measures to save Chapala Lake.

The option is shutting down sources of employment representing hundreds of thousands of jobs and the exhausting of agricultural areas on the lake.

For the Secretariat of Agriculture and Water Resources, the situation is so grave that last week, state representative Carlos Manuel Castanos issued a series of urgent measures, which in principle banned the supplying of hydroelectric plants of the Federal Electric Commission located on the lake, as well as irrigation of adjacent farmland.

The state director of tourism, architect Jorge Ramirez Sotomayor, said that the situation of the lake has resulted in a considerable drop in tourism to the Chapala area, which has reduced the income of thousands of families living in the zone.

Many resorts such as Acapulquito and El Salto have naturally had to close. In areas such as El Salto and Juanacatlan, there is no water, either for human consumption or animals.

In addition, the situation affects colonies of retired Americans living on the shores of the lake. In 1975, there were 10,000 families in such colonies, representing some $1,000 in income for the state's economy from each family. These figures have now dropped considerably because many have moved to other places because of the dying lake or have simply gone back home.

A total of 64 hotels are now operating on the lake, where the rate of occupancy has dropped 50 percent as a result of Chapala's declining interest to tourist agencies.

Thousands of years ago, the lake occupied a vast area with a huge capacity produced by extended diluvia. As time went by, a natural outlet was found to the Pacific Ocean through the Santiago River. It formed a single lake area with the lagoons of Savula, Zacoalco, San Marcos, Villa Corona and Cajititlan, now isolated.

Chapala's area is now only 1,109 square kilometers, seven times the metropolitan area of Guadalajara. From its surface, an average of 5.2 million tons of water evaporate a day.

This vapor acts as a thermostat, preventing extreme temperatures throughout the Atemajac Valley. It is the reason for the region's extraordinary climate, whose temperatures are similar to those of the tropics, with a temperature that does not vary throughout the year.

At the present time, says Enrique Flores Trischier, director of the University of Guadalajara's Institute of Astronomy and Meteorology, the climate is now also in danger.

Fishing, particularly for white fish, catfish and charal, was an average of 10 tons a day 10 years ago, but it has now dropped to 2 tons a day and, according to the fishing representative, Leobardo Ortiz, it will continue to drop because of the level of pollution of the reservoir, which affects thousands of fishermen living on the shores of the lake in romantic little huts and on their boats.

In order to save the lake, a determined effort must be made by the Federal Government. A good solution, says the former director of the Intermunicipal Drinking Water and Sewage System (SIAPA), Jorge Matute Remus, would be to erect dikes and dredge the lake, but the most important element is to preserve the supply of water and seek water for Guadalajara from other nearby areas.

It is also necessary to change irrigation systems and replace lake water by water sprinkled in other farm areas. It would also be possible to use treated grey water.

Otherwise, Chapala, whose picturesque splendor inspired the song by Tito Guizar, will die.

11,464
CSO: 5000/2039

BRIEFS

GUANAJUATO DROUGHT--Leon, Guanajuato, 5 Jun--Some 30 percent of all cattle in the northwestern region of the state have died in recent months due to the drought, according to Jose de Jesus Vargas, head of District 3, who added that as a result, milk and meat production in the region will drop. He explained that the animals surviving the shortage of water and pasture could die if it does not rain in the next few days. It is estimated that there were about 90,000 head of cattle in the northwestern region up until a few months ago. Vargas stated that the two dams in the region: La Sauceda and El 40, are empty and the Lagos River has gone dry due to the lack of rain. The head of the SARH [Secretariat of Agriculture and Water Resources] Department of Development, Jose Guerra Marquez, reported that grazing land is nearly worn out from overuse. For his part, the president of the Cattle Breeders Association, Alfonso Alba Martin, said that cattlemen are being forced to transport water to their livestock through pipes, but this has not been enough to prevent the death of the cattle. He explained that this practice is too costly because of the high price of feed required by livestock compared with the low cost of meat. [Text] [Mexico City EXCELSIOR in Spanish 6 Jun 83 p 34] 11,464

CSO: 5000/2039

GOVERNMENT APPROVES LAWS TO PROTECT ENVIRONMENT

Managua EL NUEVO DIARIO in Spanish 5 Jun 83 p 5

[Text] The Junta of the Government of National Reconstruction [JGRN] has approved three laws providing for the protection and improvement of natural resources, according to information presented at a press conference yesterday by Vladimir Perez, director of the Institute of Natural Resources and Environment [IRENA].

The Erosion Control Law is one of the approved laws, and it provides for the protection of reforestation and windbreak plantations operated by IRENA and for bridge reconstruction between Leon and Managua.

Before the passage of this law, IRENA had no legal apparatus for penalizing those who destroyed the abovementioned plantations and bridges, according to Lopez [as published].

The Law of Protected Areas in the Pacific Region is another of the approved laws under which preserves will be established to save the ecosystems of the Marrabios mountain range, the Mombacho and Zapatera volcanic peaks, the Chiltepe Peninsula and adjacent areas. They will be legally designated as perserve areas and sanctuaries for animal life.

The third law approved by JGRN in called the Chocote Area Law which concerns the region near Rio Escalante in Rivas and the marine basin there.

This law provides for a protection program for the marine fauna because the area has a large number of turtles, and the purpose of the law is to prevent their extinction and that of the plant and animal life there.

Director Perez said, "We have felt that it is important to provide facts, activities and plans for programs and to see them realized. Since the revolution and the creation of IRENA this marks our third year celebrating World Environmental Day.

During previous celebrations there was simply a commemoration of how World Environmental Day began and the importance of celebrating the day. There were theoretical festivities and memorial speeches. Those celebrations only served to inform the public of projects related to the forests, fauna, wild life and environmental studies.

The director emphasized that the goal of the celebration now is to inform the public of various policies, now in effect, that IRENA has been carrying out over a period of 6 months this year and which are now producing results.

MAP

JGRN has authorized IRENA to proceed with the formation of a committee which will be called MAP. The committee will be comprised of the country's outstanding individuals in the field of natural resources and government representatives from agencies that are involved in studies and scientific research relating to the area of natural resources.

According to Perez, this committee will operate in an observation and orientation capacity for the central agency, in this case IRENA.

"The plan," said the director, "is to stimulate an area of the country that will serve as a preserve in the biosphere between the Bocay River, Cerro Serlay and the Waspuc River, in collaboration with the Bulgarian Government."

Integral studies will also be undertaken of the fauna to take advantage of the nature of the area and to select an area to be a preserve for the biosphere.

Zapatera

The director said that a training center will be set up in collaboration with the Tropical Agronomical Center of Research and Training which will establish a special form of management for Zapatera Island.

Perez emphasized that in cooperation with IRENA, entities such as the Ministry of Education, the Ministry of Culture and other state agencies will conduct a study which will result in Zapatera Island becoming a center of scientific research of fauna, flora and archeology.

Bovaluis Foundation

The director also reported that a proposal had been presented to the Swiss Government by the Nicaragua ambassador there and also by the director himself regarding the establishment of the Karl Bovaluis Foundation, which was enthusiastically accepted and approved in less than 20 days. The Bovaluis Foundation will conduct pure and applied scientific research into our natural resources.

Karl Bovaluis was a reseracher who, while on a journey through Central America about 100 years ago, passed through the southern part of Nicaragua where he visited Zapatera Island, Ometepe, and the San Juan and Rivas rivers. He succeeded in identifying various species of our fauna, flora and important natural, archeological and pre-Columbian resources.

IRENA also signed an agreement for scientific and technical cooperation with the Swiss Government in setting up research centers at three ecosystem

areas: the marine-coastal region, the continental waters and the tropical forests.

$600,000 for Research

Perez indicated that the Norwegian Government had offered a donation of approximately $260,000 to begin a study of the source of the operative basin in Region IV which includes Carazo, Granada and Rivas in order to find a solution to the problem of erosion of a large part of a river bed near Nandaime which is expanding each year. He noted that the purpose of the study is to stop the erosion.

Netherlands

The Dutch Government offered to provide a technical crew to study the overall development of Region I to resolve the water problems for the people as well as increase production. Perez affirmed that the study would be implemented in cooperation with the Ministry of Agricultural-Livestock Development and Agrarian Reform [MIDINRA] and that it would be conducted this month (June).

He further explained that the Federal Republic of Germany had offered extensive technical assistance for the development of the forest areas and as a result, negotiations are being carried on with agencies like CAN-SELA to obtain technical contributions.

Busawas

The director also stated that a donation had been received from the International Union of Nature Conservation [UICN], specifically from the World Wildlife Fund in the amount of $21,000 in technical crews, canteens, microscopes, knapsacks, etc. for research in cooperation with the Bulgarian Government, the purpose of which will be to designate the Busawas region as a preserve for the biosphere.

Czechoslovakia

Perez reported that a laboratroy worth over $1 million had been donated by the Czecholsovak Government which will be used to conduct environmental quality studies to determine the level of contamination by industrial wastes, contamination from agricultural chemicals in the soil and contamination of the atmosphere caused by the use of pesticides.

Director Perez affirmed that the technical and scientific means are available for safeguarding environmental quality in areas of high agricultural production such as the western region.

9787
CSO: 5000/2040

GULF OFFICIAL EXPLAINS PLAN TO COMBAT OIL SLICK

GF301444 Manama WAKH in Arabic 1340 GMT 30 Jun 83

[Text] Manama, 30 Jun (WAKH)--The meetings of the technical committee which stems from the Regional Organization for the Protection of Marine Environment [ROPME] in the Gulf countries concluded a 6-day session here today with a regional plan to combat the oil slick that has resulted from the oil leaking from the Iranian Nowruz well into the sea.

Mr Khalid Fakhru, director of joint operations in the organization and chairman of the session, told WAKH that this step is represented by undertaking a comprehensive air and sea survey to monitor the large oil slicks in the northern part of the Gulf followed by operations to combat these slicks by gathering them into a square-like configuration which, as determined by experts, will be 75 miles long and 70 miles wide. The square-like configuration will extend from the Iranian Morjan field to 15 miles to the south of the Arabian Peninsula. Then clean-up operations to remove oil from the sea will begin in this square-like configuration.

Mr Fakhru added that this plan is considered to be experimental and small. It has a limited scope, to realize the ability of the equipment and technical resources, and determine the feasibility of plans that are available to us to combat oil slicks in the sea.

These operations, he added, will continue until we reach a point that we determine that it would be difficult to continue for economic or technical, or other reasons.

Mr Fakhru explained that if it proves impossible to implement this plan, the organization's experts will meet again in order to think of a new method to combat the slicks, and then we will concentrate our efforts on protecting seashores from pollution.

He said that Saudi Arabia and Iran will undertake to carry out the air and sea survey within the small regional plan, while the other member states will participate in the efforts to clean the sea of the pollution.

Mr Fakhru noted that some of the delegations to the meetings requested that they be able to consult their governments on some points in this plan and to

study them in detail, provided that implementation of the plan will begin as soon as these states give their approval on it.

He explained that a report will be submitted to the executive director of the regional organization for combating marine pollution in Kuwait on the results and recommendations of the experts meetings in Bahrain.

The meetings of the organization's experts began last Saturday.

CSO: 5000/4529

EFFORTS OF COUNTRY'S LEADING POLLUTION EXPERT DESCRIBED

Cairo AL-AKHBAR in Arabic 14 Apr 83 p 9

[Article by Muhammad al-Huwari: "The First To Introduce the Science of Air Pollution in Egypt"]

[Text] His name has been linked with many activities both in Egypt and abroad. He was the first to establish the air pollution division of the National Research Center. He was the first to set up environmental protection centers in Kuwait, Saudi Arabia, and the Sultanate of Oman. He is one of the few scientists in the world in the field of air pollution, and he has done a great deal of research in Egypt.

He is Dr Muhmud Sami 'Abd al-Salam, the Egyptian as well as world expert. He obtained his doctorate at the Imperial College of Science and Technology in London in 1956. The subject of his thesis was pollution of the environment, and on the basis of this thesis, he was the first to conduct a comprehensive study on air currents in mountainous regions and in cities located in the basins of these mountainous regions. In his study he constructed a model showing the location of stagnation, that is, the area in which stagnant air is found. This study also showed that most cities located in the basins of mountainous regions have stagnant air and therefore increased pollution.

After obtaining his doctorate, he joined the National Domestic Research Center in 1957 and began work in field studies. He had two tasks, the first of which was research in the field of air pollution and the second, pollution in industrial areas and alternative solutions. He had the additional job of building new generations of assistant technicians, because the science of air pollution was new in Egypt. Thus, graduates of colleges of science, engineering, agriculture, and medicine began to be trained in preparation for master's and doctoral degrees. Indeed, with these measures it was possible to create a generation of specialists in Egypt in the field of air pollution and supply the ministries with them.

As of 1960, the ministries began sending their problems to the air pollution division of the National Research Center, only 3 years after the founding of this division. The problem of the iron mines in Aswan is what gave the air pollution division its fame and stature. Dr Mahmud Sami 'Abd-al-Salam had made a field study on air pollution emanating from the iron mines and crushers

in Aswan in 1958. The following year President 'Abd-al-Nasir was on his way to lay the cornerstone of the High Dam. At the time, a number of heads of state of friendly nations were present. A news item appeared in one of the daily newspapers confirming that workers at the iron mines Aswan were dying of the lung disease silicosis. This news was based on the findings of the studies of Dr Mahmud Sami 'Abd-al-Salam. Workers staged a demonstration, demanding that President 'Abd-al-Nasir protect them from this dangerous disease. At the same time, Dr Sami 'Abd-al-Salam was approached by the office of the president of the Republic which contacted him to explain more details of his study. The air pollution division began to receive encouragement, so much so that in 1967, after the reversal when the nation was in the greatest need of money, and the air pollution division was conducting a study of the industrial area of Halwan, it received 200,000 pounds in hard currency by personal order of President 'Abd-al-Nasir to buy equipment necessary for the studies. In 1968 the office of the president of the Republic issued decrees to implement the directives of Dr 'Abd-al-Salam to buy precipitators for cement factories in Halwan at state expense.

In 1969, through his efforts he succeeded in having a Republic resolution issued to establish the higher committee for protection of the air against pollution under the chairmanship of the minister of health. The committee functioned until 1970 only, when Dr Sami went to Kuwait. Upon his return in 1974, he and Dr al-Qasas set up an overall environmental pollution committee. The cabinet agreed in principle to establish the committee and then issued a republic decree in October 1980 founding it.

He also had a role in establishing the committee of the Council of Environmental Research at the National Research Center.

Dr Mahmud Sami 'Abd-al-Salam was selected by the United States to teach at New York University as a visiting professor for 2 years. He was then chosen as an adivser to WHO. He has also made many reports and studies in Saudi Arabia, Syria, and the Palestinian camps on commission by the UN.

Dr Mahmud Sami had made 75 scientific reports by 1974 and published them in numerous books. In addition, he has overseen 25 doctoral dissertations and 80 master's theses. He has given lectures in the universities of Cairo, 'Ain Shams, the Higher Institute of Health in Alexandria, and the Peace Institute. He is currently in charge of the first and largest council of its kind in the Sultanate of Oman for environmental protection and combatting pollution. He is the secretary general of the council which is chaired by Sultan Qabus.

Dr Mahmud Sami 'Abd-al-Salam confirms that even though Egypt was the first nation to become concerned with environmental pollution in Africa, Asia and Europe, we have not made much progress in the field. This is due to our complex problems, and also because with unplanned industrialization and construction, we have reached complicated stages. It is impossible to control pollution in Cairo because in Shabra al-Khayma, for example, there are 500 factories on the northern heights of Cairo, that is, above the wind.

In Hulwan and al-Ma'adi there are more than 35 factories with heavy industry, in addition to hundreds of other factories in Cairo. The economic losses caused by pollution surpass the nation's gains. The solution is to build new, scientifically-planned cities with provisions for controlling both environmental pollution and factories producing pollutants.

7811
CSO: 5100/4613

CONFERENCE EXAMINES POLLUTION PROBLEMS

Cairo AL-'UMMAL in Arabic 13 Jun 83 p 2

[Article: "Protect Houses, Factories, Schools and Hospitals From Pollution; A National Board To Protect the Environment and Standardize Legislation"]

[Text] Adviser 'Adil 'Abd-al-Baqi, minister of state for administrative development and Dr Hasan Tawfiq, head of the Central Organization for Organization and Administration, were observers at the Organization and Administration Conference To Protect the Environment, recently held in Cairo.

The conference discussed ways to safeguard Egypt's manpower from the dangers of pollution, to boost the level of performance of those working in services and utilities and to achieve better means of consumption.

What Did Conference Members Say?

'Izzat Subhi 'Abd-al-Mun'im, a member of the Technical Board for Programs of Administrative Leaders, said that the problem of overflow of sewer water has become a matter that plays a large role in pollution. What is needed is to regulate consumption of water through the installation of water meters in houses, government agencies, schools and hospitals. Those operating in these areas should assume the cost of consumption, and this money used to renew the drainage networks, and provide maintenance and follow-up. The expansion of building should be stopped along with the issuance of licenses to build new establishments. Incentives should be used to find better methods.

Dr Husayn Kazim, undersecretary of the ministry in the Central Organization, called for the need to achieve a policy of decentralization and local rule, and to transfer some of the ministries and agencies to the provinces.

Dr 'Izzat Khayri, secretary of the Supreme Council of Universities, referred to the fact that environmental protection is an important and basic need, especially in safeguarding the health of workers and manpower. Problems of environmental pollution, the waste products of factories and vehicles, and the overflow of sewage all have their injurious effects on the health of the worker, who has a fundamental role in development and production operations.

Dr Muhammad Ibrahim, in charge of public administration for industrial safety in the Ministry of Manpower and Training, stressed that the heavy use of agricultural machinery, to compensate for the exodus of manpower, has led to an increase in pollution. It would be preferable to provide protective means for each machine or tractor to eliminate their exhaust, or to deal with it chemically. That is very important in work places where there are young children.

He added that there was also a serious problem that no one had pointed out, and that was the pollution caused by protective clothing during the worker's break. "We find in agricultural associations that workers' clothing is put into insecticide storage areas. Moreover, these storage areas are close by grain storage facilities."

All of this helps to spread pollution with its deleterious effects on the labor force.

Conference discussions dealt with pollution in industrial areas, since each industrial zone is surrounded by the housing areas of those who work in the factories. Therefore, the workers who live in these areas are subject to pollution from industrial wastes.

At the conclusion of the conference, several recommendations were issued, the most important being that the worker is a resource whose health must be protected whenever it is threatened. The conference also asked for the establishment of a national board to protect the environment, through a standardization of legislation in the various areas and sectors.

7005
CSO: 5000/4614

ACID RAIN INDICATES 'ALARMING' POLLUTION IN BOMBAY

New Delhi PATRIOT in English 9 Jun 83 p 4

[Text]

BOMBAY, June 8 (UNI)—Air pollution has reached alarming proportions in Greater Bombay, if the detection of acid rain in the western suburb of Sakinaka-Marol last year is any indication.

The acid rain is attributed to the high density of air pollution caused by heavy automobile traffic and gaseous emission from industries, particularly chemical factories.

Scientists at the Air Quality Monitoring and Research Laboratory of the Greater Bombay Municipal Corporation told newsmen yesterday that the possibility of the inhabitants of the area suffering from skin rashes and burning of the eyes could not be ruled out. The acid rain also caused faster ageing, they said.

The Lalbaug-Parel area in central Bombay with many textile mills, Chembur in north-east Bombay where refineries are located, Khar in North-west Bombay and Colaba in south Bombay where automobile traffic was heavy, were the most polluted areas, the authorities said.

However, the over 16-month-old textile strike has proved a "blessing in disguise", lowering the level of air pollutants like sulphur dioxide and suspended particles considerably, according to the laboratory's scientist-in-charge Mrs Jayshree Deshpande.

But the corporation is not blind to the menace of increasing air pollution, caused mainly by the phenomenal population growth, and was the first civic body in India to set up a separate environmental pollution control cell (EPCC) in 1973, Deputy Engineer (civil and environmental) D J Vyas pointed out.

According to another study under a World Health Organisation (WHO) project being carried out here motorists are more prone to cancer and other lung diseases than those commuting by train or bus.

The motorists inhaled very high amounts of carcinogens and other poisonous respirable particulates, sulphadioxide, nitrogen oxides, carbon monoxide and other exhausts emitted from their vehicles, Mrs Deshpande, who is also in charge of the WHO project for "assessment of human exposure to air pollutants" said.

Motorists also smoke while driving, while smoking was banned on buses and trains, she pointed out.

The pilot project is also being conducted by the EPCC since last November, with WHO assistance of 48,000 US dollars.

Such WHO projects had been taken up on a pilot basis in four other countries—Yugoslavia, Canada, China and Brazil, she added.

CSO: 5000/7047

IBRD LOAN TO AID PROTECTION OF HIMALAYAN ECOSYSTEM

New Delhi PATRIOT in English 3 Jun 83 p 5

[Text]

India's efforts to prevent further deterioration in the Himalayan ecosystem will be supported with a 46.2 million dollars loan from the International Bank for Reconstruction and Development (IBRD), reports UNI.

This is the bank's second loan to India for carrying out ecological measures in the area, a World Bank release said today.

Due to depletion of forest cover, overgrazing, and improper land use, serious denudation and flooding of the gangetic plains is taking place. To help reduce the damage, the 69.1 million dollar watershed management project will construct two watersheds covering 312,000 hectares in the western Himalayas in Uttar Pradesh. A total of 168,000 hectares will be planted to meet the increasing need for fuelwood, timber and fodder.

In the upper catchment areas, soil conservation measures such as restrictions on grazing, and construction of small anti-erosion structures, will be undertaken. In addition, the project will provide funds for research and on-going evaluation to study the most effective methods at the least possible cost.

Besides dealing with the problem of erosion, the project will improve the standard of living through increased agricultural productivity, incomes, and employment opportunities. Project activities also include livestock development, horticulture development and minor irrigation.

The project will help strengthen the capacity of Central, State, and local agencies to plan and implement such schemes, and encourage people's participation at various levels.

The IBRD loan is for 20 years, including five years of grace, at an annual rate linked to the cost of bank borrowings.

CSO: 5000/7046

CAUSTIC SODA WASTES ENTER SEWAGE SYSTEM

Tel Aviv HA'ARETZ in Hebrew 31 May 83 p 4

[Article by Avraham Tzahar, HA'ARETZ Economics Correspondent: "Bromine Compounds Pouring Excess Caustic Soda into Country's Sewer System"]

[Text] The government's Bromine Compounds Enterprise has thus far poured into the sewer system more than 500 tons of excess caustic soda, and if the problem of the excess is left unsolved, it will have to continue putting out this tank material into the sewers, said the general manager of the enterprise, Mr Ari'el Ginsburg. He noted that they will have to take this step despite the foreseeable hazards from the ecological damage which will be created.

Caustic soda is one of the by-products in the process of manufacture of bromine compounds. Inasmuch as the Protarum Company (itself government owned) also manufactures this material, Bromine Enterprises was at one time required to sign an agreement with Protarum by which they obligated themselves to market in this country all the caustic soda which they produce solely through Protarum. But according to the allegations of the heads of Bromine Compounds, Protarum will not accept the soda from them in order to protect the high price level of its products.

An investigation by HA'ARETZ divulged that the volume of production of the caustic soda has reached a rate in this country of 63,000 tons annually. Of this quantity, some 30,000 tons are produced by Protarum Enterprises and another approximately 3,000 tons by a number of small, private production enterprises. The Bromine Compounds Enterprises produce about 30,000 tons each year which, if not sold to Protarum, must be stored. Since Protarum has recently ceased absorbing from Bromine Enterprises the amounts of production, the warehouses of this company have accumulated excess inventories of over 6,000 tons and they are increasing day by day.

Publicity Scheme

At the beginning of last month the heads of Bromine Compounds attempted to initiate a publicity scheme in order to exert pressure on Protarum to acquire the excess inventories from them, even at minimum prices. They then made public (HA'ARETZ 4 May) advertisements in all the daily newspapers, in which they made known that there would be a week of free distribution of the soda.

That same week they distributed about 500 tons, until Protarum obtained an order from the District Court in Haifa, forbidding Bromine Compounds from continuing the project, with the argument that free distribution damages the Protarum business, and is in contravention to the sole distribution contract which was entered into at one time by the two companies.

The general manager of Bromine Compounds, Ari'el Ginsburg, confirmed these details and said that since he is enjoined from selling or distributing in this country, he is prepared to export all quantities of caustic soda, even at loss prices, if only the prices will cover the costs of transportation and packaging of the shipments. But even under these conditions his company is not finding any buyers. He said: "If Protarum does not agree to acquire the excesses which are accumulating, Bromine Compounds will be forced to continue to destroy these surpluses by scattering them or by flushing them into the sewers."

8090
CSO: 5000/4524

BRIEFS

NEW WATER PURIFICATION SYSTEM--Special systems for completely purifying water of salts, organic material and bacteria, cheaper and more efficient than systems known thus far, have been developed by Ramot Plastics, a partially owned subsidiary of Ramot, the R & D authority of the University of Tel Aviv. The team of scientists developed a series of basic components for water purification systems based on the principle of reverse osmosis (a system which permits purification of water by filtration at high pressure through semi-penetrable membranes). The basic components are a series of new polymers that are protected by patents in the US and other countries, from which semi-penetrable membranes can be created which allow not only the removal of salts but also of organic materials of low molecular weight such as urea, etc. In comparison with the two other methods used for water purification--distillation and ion-exchange absorption--the reverse osmosis process is the most efficient. The operating cost of producing a cubic meter of purified water is 65 cents in the reverse osmosis method as compared to $10.20 using ion-exchange resins and $27 for distillation. In addition, the firm has developed a series of high-pressure pumps which are unique in their small size and low power consumption and which are sealed against bacteria and can be sterilized. The systems, which are well-known in Israel for local use, are already being marketed in West Germany, France and Japan. [Text] [Tel Aviv 'AL HAMISMAR in Hebrew 7 Jun 83 p 6] 9794

CSO: 5000/4526

CONCERNS FOR ENVIRONMENTAL QUALITY OUTLINED

Paris AL-NAHAR AL-'ARABI WA AL-DUWALI in Arabic No 319, 13-19 June 83 pp 40-42

[Article by Wakim Bu Lahdu: "If Environment Continues To Be Ignored, Post-War Lebanon Will Be Threatened by What Is Even More Dangerous Than the War"]

[Excerpts] The Environment in Lebanon

A group of highly educated, duly qualified Lebanese citizens are calling attention to this growing serious problem which is beginning to threaten Lebanon, a country that has a tree as its logo. In an industrial world floundering in a various pollution epidemic, Lebanon's only asset is its natural beauty. These Lebanese citizens have been calling for the establishment of societies and clubs to defend the natural resources of their country which are being threatened by numerous environmental hazards that are the result of ignorance about the dangers of western technology and the present and future effects of this technology on the country's resources. Those Lebanese citizens began their multifarious battle against environmental pollution with limited and modest resources. They wanted to get officials to take action, and [they hoped] to make citizens aware of the horrors of that monster that was unleashed by western civilization.

Chief among these environmental societies is the Lebanese Association for Preserving the Environment. Its president, Attorney Camille Finanos and its members, most of whom are specialists, university professors, physicians and engineers, have been mobilizing since 1978 to carry out the necessary activities to preserve the environment, fight pollution and encourage the creation of similar societies. Among its activities the association offered numerous lectures and scientific symposia and participated in international conferences. The association [also] held two conferences on the environment, and it took part in forestation efforts in various parts of Lebanon. In addition, the association is always working with numerous officials in an effort to upgrade [the status of] environmental affairs in Lebanon and to have a ministry for environmental affairs established in Lebanon, as is the case in other advanced countries. The association's efforts were crowned with success under the last government that served during President Sarkis's term. Decrees were issued establishing the first ministry for the environment in Lebanon. It was headed by Dr Qaysar Nasr who found the Lebanese Association for Preserving the Environment to be a helpful blessing. Among the major accomplishments of this ministry was the creation of the Binta'il reservation, which is unique in Lebanon. It was established with the help of a group of young people from the area of Jubayl and Binta'il in particular.

The Threat to Lebanon's Natural Landmarks

The threat to Lebanon's nature manifests itself in the senseless destruction and the blind and ignorant defacement of geometrically shaped rocks. This is what happened in the plans that were made for roads and buildings in the area of Faytrun-Mayruba. This area is cited by some scientific encyclopedias of geography as an example of an area in the world where limestone [can be found]. The threat to Lebanon's nature also manifests itself in the removal of rocks from the historical al-Kalb River mountain pass where Lebanon's history is summarized on the historic tablets of a natural museum representing the civilizations of the old world that passed through our country. The threat [also] manifests itself in the authorized use of stone quarries and stone crushers to break down rocks in a haphazard and irresponsible fashion. It is manifested in defacing the contours of caverns and caves in Antalyas which date back to pre-historic times and which prove that man lived in Lebanon since the (Neolithic) Age. Furthermore, the Bay of Juniyah is being subjected to horrible disfiguration as a result of the construction of small swimming pools. The fascinating beauty of the beach is being compromised to serve personal interests or to serve purposes that conflict with the simplest rules of tourism and nationalism. In addition, there are stone crushers in the middle of al-Khalij mountains, and there is [ongoing] destruction in the Valley of the Abraham River which is considered one of the most beautiful and most moving natural valleys because it is the river of the [Greek] god Adonis. If such a lack of concern with natural and historic landmarks were to manifest itself in the advanced countries, political and national crises would have ensued.

The Threat to the Beach

Lebanon's beaches, its national resource, have unfortunately been turned into a large center for collecting garbage, refuse, rats, mosquitoes and poisonous insects. In addition, Lebanon's beaches have become a dumping ground for sewage and chemical and petroleum wastes produced by plants and by vessels and ships that run on oil materials. These poisonous, polluting materials are posing a threat to marine life and particularly to the fish, like (al-dahban) and striped mullet, that live in the basins of the ports and along the coast. These materials [also] kill the underwater vegetation which provides food for many kinds of fish. They also kill the little eggs that the fish lay near the shore during the mating season. In addition, the uncontrolled use of dynamite, drugs and narrow nets [in fishing] has had a negative effect on life in the sea and consequently on human life.

The Threat to Animals

This threat may be stated briefly as one that lies in the spread of haphazard construction in forest areas, the natural environment where various animals live and breed. People are driving animals out of their natural environment, and they are hunting birds, many varieties of which are becoming or have actually become extinct. In the civilized countries of the world, birds are an indication of a country's civilization. They do not fear people. Instead, they can be seen in the streets and flying without fear over the rooftops of houses and balconies. Most of the hunted birds feed on insects that are harmful to plants and to people. [When the birds are hunted], these insects proliferate, spreading their poisons and destroying life.

Lebanese citizens are not easily deterred from cutting forest trees. The Lebanese do the opposite of what is ideal: they cut trees and do not plant them. They cut trees and use the wood to make the coal that is used in broiling meat and poultry, or they cut trees to decorate their homes during the Christmas season. The Lebanese pull out trees when they dig the ground [to put up] the foundations for buildings or because of fires that may result from more than one reason. There is also the threat that results from leaving garbage or throwing it in the woods. Amidst this garbage are chemicals and processed materials; these are seeped to the roots of trees with the rain, causing those trees to become sick and eventually to die. For the first time in history the evergreen cedars of Lebanon have been hit with a malignant disease.

There is no doubt that the shrinking area of cultivated land is decreasing oxygen [in the air], increasing the desert area and reducing rainfall.

Although the scale of pollution in agricultural areas has been limited, the fact that farmers, sometimes deliberately or inadvertently, put too much organic fertilizers on the soil or spray more poisonous pesticides than they have to to kill harmful insects causes the elimination of other forms of life and pollutes the environment.

The pollution of food with coloring agents and adulterated materials is one of the aspects of [environmental] pollution. The [actual] contents of canned goods or consumer goods are sometimes not identical to those that are indicated on the outside packages of these goods. For example, a can whose package indicates that it contains pure and unadulterated cow milk sometimes contains powdered processed milk. Sanitary conditions are not observed in transporting and refrigerating numerous varieties of cold cuts. Also unpackaged foods are exposed to germs quickly, and we live in a country where people consume raw meat in many of their meals. Due to the absence of strict controls on food in Third World countries, the markets in these countries contain numerous foods, beverages, canned goods and drugs that do not meet legal and sanitary conditions, guarantees and specifications.

Water Pollution

The atmosphere in which the waters of a river flow is usually exposed to pollution, particularly in those areas along the banks of a river where people have set up sand or stone quarries or plants that pollute the air with the smoke they emit. In most cases the banks of rivers are planted with trees that are sprayed with poisonous pesticides, and some of these pesticides get into the water. But the most dangerous water pollution occurs when sewage gets into ground water or when sewage is dumped into lakes or rivers which then turn into a source for pestilence and disease.

Air Pollution in Cities

There are numerous interrelated factors that cause air pollution in cities. Among these are central heating systems, obstruction of traffic, traffic congestion and industrial plants that emit smoke charged with poisonous gases that come from oil or from other materials and harmful bodies. Another source of air pollution is the garbage that accumulates on the sidewalks, not to mention the courtyards that are near buildings which were designated as gardens but became garbage dumps

instead of gardens for flowers. Also the noise that is generated by airplanes taking off and landing, by car horns and by other factors causes people to become nervous and makes them always tense and taut.

The Urban Planning Chaos

The classification and distribution of areas into residential, agricultural and industrial sometimes conveys major ignorance of Lebanon's geographical, ratural and heritage conditions. Most of this planning is done with immediate and not future concerns in view. Some important agricultural areas, like the flat lands of al-Kalb River which has a history in Lebanese agriculture, have been turned today into an industrial area instead of being an agricultural area. The plans that were made for the coastal highway in the fifties constituted a major national crime because this highway was built in the middle of the agricultural coastline in a country that is characterized by its limited agricultural land. The coast was destroyed in the name of tourism by projects that are not at all consistent with what constitutes tourism nor compatible with the beautiful nature of the coast which can no longer be restored to its former state. The destruction of nature is a loss that cannot be recovered.

Change has overtaken the city of Juniyah whose picture can be found on most post cards that are sent all over the world as a miniature picture of Lebanon. Concrete structures are beginning to prevail over fired brick structures, and buildings are beginning to take over the green areas of the city. Preserving the old character of Lebanese villages and towns and relying on local, patriotic architects who understand the history of their country and love their homeland is a basic condition for organization, construction and coordination activities in the country to protect the beauty of Lebanon.

Lebanon Is Facing Genocide

Lebanon is being threatened from within by what is more hideous than war. It is running the risk of genocide and of the elimination of its heritage, its beauty, its waters, its people, its plant and animal life, its air and its sea. The image of Lebanon is beginning to change, and the future is terrifying. Lebanon needs to undergo an over-all surveying operation. It needs a comprehensive plan for its economy and its national revenues and resources to preserve what must be preserved and to salvage what must be salvaged. [Lebanon needs this survey and this plan] so we can face the future, particularly after the destruction and the war. We would not then have to mourn the Lebanon of our forefathers, and this paradise would not have to turn into a desert where poets could find no beauty to praise and nothing to extol.

It is no longer enough to speak about Lebanon's environment, to mourn what has happened to it and to deal with this problem by having the Lebanese Association for Preserving the Environment or Dr Ricardo Hubert use limited resources to offer lectures to increase awareness of the problem. The Lebanese people and Lebanese officials must rather assume the responsibility, and they must be held accountable to future generations and to history for the extinction of Lebanon and the genocide of the Lebanese.

8592
CSO: 5000/4525

COUNTRY'S EFFORTS FOR BETTER ENVIRONMENT REVIEWED

Kathmandu THE RISING NEPAL in English 5 Jun 83 p 3

[Article by S. R. Chalise]

[Excerpt]

Nepalese Context

There has been a very healthy and encouraging increase in awareness towards enviornemntal problem facing Nepal both at the governmental and non-governmental levels. This awarness is still in the nascent stage and definite progress towards a better environment may take some time. However the steps taken by H.M.G. in this direction have already indictated its readiness and commitment to face the challenge. The formation of a National Commission for Resources Conservation and the establishment of a Soil and Watershed Management Department, which have initiated important projects among which the Environmental Impact Study and Remote Sensing, deserves special mention. The academic programmes started by Tribhuvan University in the fields of meteorology, hydrology and ecology is another significant development in meeting the manpower requirements in this important field. Similarly, the establishment of the National Committee for the Man and the Biosphere and the recent emergence of organizations like the Nepal Environment Conservation Group are positive steps and healthy developments in the non-governmental sector. Such organisations will undoubtedly play a very important role increating an awareness towards the issues and problems related to the environment in the minds of the people.

Town Planning

The most important tangible development towards a better and cleaner environment is probably the introduction of the town planning concept in the late seveties. It is also a matter of pride for all of us that His Majesty King Birendra Bikram Shah Dev took a personal interest to indroduce this concept and implement it in the four regional development centres of Kathmandu, Pokhara, Dhankuta, and Surkhet. These town planning projects are extremely important and are infact the most practical steps taken by the country for a better planned and clean urban environment. Of these four, the Kathmandu Town Planning Programme is more complex and challneging not only because it extends to the three districts of Kathmandu, Lalitpur, and Bhaktapur, but also because it covers the three most important and ancient cities of Kathmandu, Patan and Bhaktapur. It may be of interest to know that there has been significant international concern to preserve the ancient monuments of the Kathmandu Valley and recently UNESCO has published "Save Kathmandu Valley" posters

The most simple and significant steps towards a better enviornment is probably to keep one's neighbourhood clean and to imbibe clean habits. Water is the most important element for individual or community cleanliness.

With abundant water reosurces, we however have to face a situation where clean drinking water is not available in sufficient quantities. For example, even in the capital water has become a scarce item and any housewife finds it very difficult to run her household with the available quantity of water.

Conserving Rainwater

It is therefore extremely important that as a first step towards a cleaner environment, we should plan for better and cleaner water supply to our villages and cities. For places like Kathmandu it has become imperative to start thinking immediately about ways and means to augment its water supply. For this better methods of management and conversation of water have to be applied immediately. The conservation of the Bagmati and Bishnumati watershed has been already taken up. But with the rapid growth in population in the Kathamandu Valley the demand for water is bound to increse enormously. For elevated valleys like Kathmandu, water has to be either pumped through thousands of feet from low lying and far-off big perennial sources like the Trishuli, Indravati and Sunkoshi rivers, or some other alternative has to be thought of. A simple and feasible alternative would be to conserve and store as much of rainwater as possible. We have so far not paid any attention towards this, perhaps because our needs were simple and more or less satisfied. Storing of rain water in a chain of reservoirs will require the development of a suitable indigenous technique suited to the local situation. Simple engineering methods will have to be developed so that people's participitation can be feasible in carrying out such projects. Studies towards the use of rainwater for domestic supply through appropriate storage technology will go a long way to solve the problem of clean drinking water in the hills and elevated valleys of the country. Incidentally, what is true for Kathmandu is also true for Dhankuta, Surkhet and Pokhara, which has its own problem of the silt-ridden Seti. The concept of the use of rainwater for drinking purposes is not new and is already being practiced successfull by Hong Kong and Australia.

Clearner personal habits may also helps not only to keep the environment clean but also so to protect us from infection. If we just check ourselves and not spit wherever we like every time we have such an urge, we probably will be helping in a small way for a big cause, and luckily it costs us nothing. □

CSO: 5000/4717

HEALTHY ENVIRONMENT, NEED FOR PROTECTION STRESSED

Kathmandu THE RISING NEPAL in English 5 Jun 83 p 2

[Editorial]

[Text]

The Minister of State for Education and Culture, Mr Keshar Bahadur Bista, has done well to underline the need for initiating steps at the national level to save the country's environment from deteriorating. Mr Bista also made an ardent appeal for cooperation of all at the national and interantional level for this task. That the appeal was made at a function organised to celebrate the World Environment Day, a day which beacons the international community for making concerted efforts to save this planet from the ecological disaster, itself speaks of Nepal's concern over the growing cases of ecocide in different parts of the world and in the country itself in particular.

The menace of environmental destruction in Nepal, which is uptil now famous for its breathtaking beauty and soothing environment, is, of late, visible in the form of deforestation and all other human invasions of nature. Incresing population pressure on hills, naturally causing deforestation, dependence on agriculture and lack of diversified job oppourtunities are, among others, instrumental in the destruction of enviornment and causing ecological imbalance. While crowded living in mid-hills has caused the population pressure on land, the snow capped Himalayan peaks are also not free from such evils. In the guise of tourism industry, these forces are active in

destroying the Himalayan environment that lure large numbers of mountaineering expeditions from every nook and corner of the globe every year. While these expeditions bring into the state coffers handsome amount of foreign exchange earnings, the Himalayas are fast turning into virtual dumping ground, thus demanding immediate and concerted efforts to keep them clean. It is here and now that the message of the World Environment Day should be translated into reality before it is too late.

The job, however, is not an easy one to be accomplished. The government can achieve but little wihtout the sincere cooperation and dedication of individuals engaged in this task. Nevertheless, cooperation from international agencies such as the United Nations and other friendly countries is equelly important. Hopefully enough at the initiative of the United Nations Education, Scientific and Cultural Organization(UNESCO) a regional center for Integrated Mountain Development is to be opened in Nepal. The body when operational and other agencies such as the Man and Biosphre Committee of Nepal will go a long way in preserving the peaceful Himalayan environment with all its health and cleanliness intact.

CSO: 5000/4717

MAN AND BIOSPHERE COMMITTEE REORGANIZED

Kathmandu THE RISING NEPAL in English 4 Jun 83 p 6

[Text] Nepal national committee for Man and Biosphere has been reorganised under the chairmanship of National Planning Commission member Prof. Upendra Man Malla.

The membership of the committee, formed in 1974, has been increased from ten to seventeen.

The committee includes Suresh Raj Chalise as member secretary. The members of the committee are Dr. Khem Bahadur Bista, Royal Nepal Academy member Dr. Tirtha Bahadur Shrestha, ecologist of the National Park and Wildlife Protection Department Rabi Bista, geographer of Tribhuvan University Dr. Chandra Bahadur Shrestha, lecturer Dr. Purna Nath Mishra of Tribhuvan University and headmaster of Future Star School Mrs. Manju Karki.

Additional secretary in the Education Ministry, chief conservator of the Forest Department, director general of the Department of Irrigation and Hydrology, the director general Botany Department, the member secretary of the National Population Commission, the director general of the Agriculture Department, the chief engineer of the Roads Department and under secretary, UNESCO (UNESCO section) are ex-officio-members of the committee.

CSO: 5000/4717

AFFORESTATION STRESSED; BAD STATE OF ECOLOGY DISCUSSED

Kathmandu THE RISING NEPAL in English 1 Jul 83 p 2

[Text]

An 18-day National Afforestation Festival for this year has already begun. It is an apt indication of the growing concern on the part of His Majesty's Government as well as of enlightened sections of society towards the massive destruction of forests in the Kingdom. Indiscriminate felling of trees has already begun to have adverse repercussions on the climate and the oveall ecology of the country. The felling of trees in most cases has been in the illegal category. However it is not quite possible to post a forest guard every 100 metres or so of forest area to ensure the fool-proof protection of forests. As such, some leakage in forest resources is almost impossible to check unless the lay people themselves show commensurate concern for forests and trees. But this in no way means that large scale destruction of forests can be permitted. Indeed, His Majesty's Government has initiated strict measures to prevent this sort of activity from taking place. In fact, the recent government move to evict illegal settlers from forest areas and to replant trees there should be taken as an extension of the overall policy of the government to restore the disturbed ecological balance. It is not, however, as if the massive destruction of forests is confined to Nepal alone. Some Scandinavian countries, too, have, for instance, gone through similar experiences. But they have been able to restore the destroyed forests and have today

become some of the richest countries in terms of forest resources. This, they have been able to do, largely by planting as many trees as are felled so that the balance is never lost despite the export of timber and the use of forest resources for paper mills.

'The green forests are the wealth of Nepal' is an old saying that may no longer apply if necessary steps in the direction of afforestation are not immediately undertaken. The afforestation festival is but one small, significant step towards this context. Under the festival, various ministers and civil servants are scheduled to plant saplings all over the country. This is no doubt useful but needs to be followed up in such a way that more and more individuals, specially those in the non-government sector, take active interest in the reforestation programme and ensure that saplings planted are kept in such an environment that they have an even chance of growing up to be trees. That means once a sapling is planted, due care has to be taken to ensure that it is not eaten up by cattle or other animals and to see that it is watered everyday. Trees have to be nursed in almost the same way as a child, which is why it is so much more easy to fell a tree than to grow one. Unfortunately, however, most citizens who are aware of the need to undertake massive afforestation and reforestation programmes live in the urban clusters, far from the forest areas. It is particularly the rural people who have to be awoken to the need for this very crucial campaign. This necessitates providing the rural populace with a readily available and cheap energy resource as a substitute for firewood, the traditional energy resource of our villages. The social organisations as well as the various units of the Panchayat should also be involved in the promotion, development and preservation of forests in a meaningful way. The annual afforestation festival is significant in that it has helped to focus the attention of the people on the dire need for reforestation wherever forests have been destroyed and to that extent the festival has been of benefit to the country. Nepalese to state, the spirit underlying the festival, however, must continue at all levels for the whole year round.

CSO: 5000/4718

DEFENSIVE MEASURES AGAINST OIL SLICK EXAMINED

Doha WEEKLY GULF TIMES in English 26-27 May 83 p 29

[Article by T. M. Anantharaman]

[Text] QATAR is continuing to monitor the movement of the various oil slicks floating in the Gulf and to prepare for combating the oil which is still spilling from damaged Iranian wells in the north of the Gulf.

Widespread measures are being taken to protect Qatar's vital installations. Under the overall supervision of the national permanent panel on environment, the Qatar Environment Protection Committee (QEPC), efforts have revolved round three main lines of defence:

The first, aimed at diverting the current away from Doha port and the city, is a five km bund which has been built by dredging Doha bay.

The second line of defence aims at the protection of vital installations like power and desalination units at Ras Abu Fontas and Ras Abu Aboud with protective booms. Some 2000 metres of floating booms have been installed at strategic points. These also cover Doha port area, the area around the Doha Sheraton Hotel and the Umm Said industrial zone.

The third stage covers the erection of permanent steel and concrete structures around the power and desalination units to protect them from the dangers of the heavy slick.

Meanwhile, the groundwork for meeting the Doha's water needs in the unlikely event of the shutdown of the desalination units is being prepared. A contingency plan to carry groundwater from central Qatar to the city to partially meet the city's water demand has been worked out and the pipe system is being checked and leakages plugged.

The encouraging news on the slick front is of course the decision of the Cooperation Council of the Arab States of the Gulf (CCASG) to combat the slick jointly. This is a big morale booster for the Gulf states because it means the pooling of resources and unified action.

Experts have now had time to consider the slick problem and revise certain assumptions. For instance, some experts believe that the size of the slick could be much smaller than originally believed.

Speaking to businessmen at a luncheon session recently, Qatar's gas adviser Dr Tahir al-Hadidi said: "So far the amount of oil spill within the Gulf is no more than one ordinary tanker sunk in these waters i.e. about 100,000 barrels."

Dr al-Hadidi said Qatar has been lucky with the spill so far because much of the oil is still far away, perhaps more than 300 kilometres. "Oil travelling that distance will be subject to wave action and exposure to air and sunlight. These will lead to evaporation of the lighter oil, and the turning of the rest into a semi-liquid material, some into small globules or tar balls, making them less dangerous."

If the oil were closer to Qatar, it would be more liquid and widespread and "combating it would be extremely difficult," he said.

Dr al-Hadidi felt much anxiety had been created by the overreaction of the Press, both local and international. He admitted, however, that in some ways this had been good, causing the authorities to quickly take precautionary measures to combat the oil.

Meanwhile, Qatar and other Gulf states is continuing to receive offers of assistance from many countries and international organisations.

West Germany, for example, has offered to participate in combating the oil spill. A government envoy from Bonn toured the Gulf recently and said his country possessed equipment and expertise for fighting the pollution including specialised vessels for scooping up the oil as well as for combating it.

A West German government-backed agency called German Oil Pollution Combat Association (Gercom), according to West German Ambassador in Qatar Dr Theodore Mez, has both the background and expertise to tackle the oil slick.

Dr Mez said Gercom is made-up of a consortium of 16 private German companies with a wide range of experience and professional background, enjoying the full confidence of the West German government. This is the first time in the Gulf, West Germany has offered government-to-government help in fighting the oil slick.

Apart from providing the right research and technology, the agency can provide management, monitoring staff and equipment and material. In the package deal offered by the West Germans, a professional ecologist is also included.

The Qatar General Petroleum Corporation has received two purpose-built vessels, carrying 400-metre booms, from London. The boats called *Mishrif* and *Uwainat* will be put to use in fighting the oil.

For the protection of the states' desalination units, a United Nations Industrial Development Organisation team visited Qatar this week offering the use of a new material called perlite which can absorb hydrocarbons from polluted water and make available relatively clean water. The use of the material was demonstrated at Ras Abu Fontas power plants and to the members of the QEPC.

The oil slick threat to Qatari coasts is very real as we found during a recent trip along the coasts from Khor to Ruwais passing Ras Laffan, Fuwairat and Al Ghariyah beaches. With increasing frequency tar balls are being washed ashore and already the beaches are an ugly sight. Preventive action has been initiated at both Al Ghariyah and Fuwairat. Under the supervision of the mechanical equipment department, clean-up operations of the beaches are continuing.

Experts believe that Qatar has been lucky with both the weather and current conditions in the Gulf. But if wind conditions change and start blowing north-west as expected in the coming months, the major portions of the slicks now off the Iranian coast, could be pushed back towards coasts of the Gulf states.

That is the real danger envisaged by experts. And it will continue until the leaking wells are capped. Meanwhile, experts are hoping to buy time to prepare for the battles on the beaches that lie ahead.

CSO: 5000/4527

AGRICULTURE, FISHERIES MINISTRY TO LOCATE POTENTIAL AQUIFERS

Dubayy KHALEEJ TIMES in English 21 Jun 83 p 3

[Article by Raman Kapoor]

[Text]

THE agricultural sector being the major consumer of water in the country, with 73 per cent of all available resources, the Ministry of Agriculture and Fisheries will soon undertake a survey to identify the location of potential aquifers to improve the general water situation.

This was stated by Mr Hamad Abdullah Salman, Under-Secretary, Ministry of Agriculture and Fisheries, in an interview with Khaleej Times.

He said that the survey, which would help in the formulation of the ministry's water policy, would be carried out in cooperation with the Arab Centre for the Study of Arid Lands. Besides, the ministry is collaborating with the Japanese International Cooperation Agency (Jica) for the development of Wadi Al Basseirah basin on the Eastern Coast.

This joint venture will also lead to the commissioning of Wadi Al Basseirah dam which has a length of 883 metres and a height of 19.5 metres. The dam will help to meet the expected deficit of about 2 million cubic metres of water in the region.

Mr Salman said a remote sensing agency had been set up in cooperation with the Jica for the study and identification of natural resources of the country with the help of satellite pictures.

The current annual consumption of water in the country is placed at about 565 million cubic metres (mcm), of which 410 mcm is used for agriculture, 95 mcm for industrial and municipal purposes, while 60 mcm is lost by evaporation. The desalination plants produce roughly 110 mcm of water.

About measures to reduce wastage of water, particularly in farming sector, he said that the ministry had started deploying modern irrigation methods, like drip, sprinkler, bubbler and mist instead of traditional system. It has been observed that some farmers sometimes used five times more water than the crop actually needed. Steps were being taken to check this trend, he said.

In matter of drilling for sub-soil water, Mr Salman said that so far it had been done in a haphazard way resulting in an alarming fall in water level. This has led to the entry of sea water in the fresh water aquifers, reducing the quality of water below the tolerance limit of the plants. Farms in Falaj Al Mualla, Saaf, Saramram and some places in Hamraniyah were among the affected areas, he said.

The hydro-meteorological section of the department of agriculture is also increasing the scope of its work. It is now operating 32 automatic rain-gauges in addition to six ordinary ones, nine climatological stations 18 flood recorders for stream gauging and 19 ground water level recorders.

The number of parameters recorded by these is sought to be increased. These stations are at present recording temperature, wind, humidity, evaporation, water temperature, soil temperature, rainfall and duration of sunshine. The new factors to be monitored include solar radiation and atmospheric pressure.

An automatic weather station, which is completely computerised, is also being installed at the Central Laboratory in Al Ain which would be able to record all the climatological parameters at an interval of every five-minutes on magnetic tapes.

Secondary laboratories have been established in Digdaga, Fujeirah, and Dhaid which are having most modern equipment and qualified personnel for conducting scientific research on various parameters of soil, and chemical composition of water for planning, the exploitation of sub-soil water.

Mr Salman said a big expansion in poultry farming was underway, in the country. According to a plan prepared by the ministry, the production capacity of poultry farms would reach 317 million eggs and 11,127 tons of poultry meat by 1985. This, he said, would meet the entire domestic requirement.

CSO: 5000/4531

BRIEFS

WEST AFRICAN FIRES--Accra--Ghana's economy is in a parlous state because of crippling drought and bush fires. Serious food shortages are already adding to the country's problems. Much of West Africa has been turned into a tinder-box and the entire region has experienced bush fires which have ravaged the major food producing areas. Bush fires in vast areas of Togo, Benin, the Ivory Coast and Ghana have left countless thousands of people homeless. Property and cash crops worth millions of rands have been destroyed. The authorities have been unable to estimate the extent of the damage so far, but in Ghana alone at least 40 percent of the country's meagre food output has gone up in smoke. Entire areas, dependent on cocoa and coffee crops, have been destroyed by fire. Estimates are that 1,8 million hectares of cultivated land have been burnt out in the Ivory Coast. The Benin Minister of Agriculture and Fisheries, Mr Alidou Baukari, said there was now "a real danger to people, and a disaster to crops, animals and the soil" for years to come. A member of the ruling Provisional National Defence Council in Ghana says the desert is being brought closer every day by the destruction. Food shortages have already become a serious problem in areas where even a slight reduction means starvation. Even in Niger, which has not suffered the fires to the same extent as other neighbouring countries, has begun appealing for international food aid. Unless it rains soon in West Africa a major catastrophe could result as vast areas are left totally without food, money or any means to survive. [Text] [Johannesburg THE STAR in English 15 Jun 83 p 11]

CSO: 5000/201

RESIDENTS TO DEPEND ON UNDERGROUND WATER

Gaborone DAILY NEWS in English 21 Jun 83 p 2

[Article by Odirile Gabasiane]

[Text] GABORONE, JUNE 15. Gaborone residents and people in nearby villages would in future depend on underground water as their lifeline if there is no adequate rainfall to re-charge the town's dam.

This was disclosed by Mr Charles Tibone, Permanent Secretary in the Ministry of Mineral Resources and Water Affairs, when he officially opened a symposium on drought on Tuesday evening at the Town Hall.

The symposium was organised by the Business and Professional Women's Club of Gaborone.

Mr Tibone explained to the audience that the raising of the Gaborone Dam will be completed in 1984 but it had to be understood that there was a 50% probability, that the full yield of the Dam might not be realised until 1988.

He said in order to have a significant inflow into the Dam in the next coming season, there must be at least 80% of the average rainfall.

The Permanent Secretary informed the audience that the failure of the Gaborone Dam was attributable to three factors, namely, the rapid growth of the area with rising water demand, the reduction in the yield of the reservoir both physically and statistically and the current drought.

He explained that with the refinement of the hydrological data, it had become clear that statistically the catchment area had been reduced. The catchment area had been further reduced by the damming of Notwane River in Bophuthatswana.

Mr Tibone revealed that government has long term strategies to combat the water crisis. He said site investigations are underway to determine if further dams can be built on the Kolobeng and Metsimotlhaba rivers, with the intention of making Kolobeng dam operational by 1988, and Metsimotlhaba dam in 1991 or 1992.

The audience was told that once the two dams are completed, effort would be made to develop sites on the Marico-Limpopo basin.

Turning to other areas in Mr Tibone pointed out that the Okavango and Chobe rivers would be the only water source alternatives available to Botswana.

He however, pointed out that recent data seem to indicate that Chobe would be a more viable source than the Okavango river.

The Permanent Secretary disclosed that his Ministry believes that water would be the biggest constraint to development in the next decade, but emphasised that they were determined to force the frontiers of drought to roll back.

Earlier welcoming the panelists the President of the Business and Professional Women's Club Mrs Irene Maswabi said the drought was a recurrent phenomenon which had always afflicted "our great grand-fathers in the past."

She said that as a future threat, drought was always ignored by many people.

"During the last major occurrence of drought in Botswana, in the 1960's, the livestock was hard hit, arable agriculture was impossible and many parts of the country particularly those which are presently hard hit by the drought today, that is Bobirwa, Bokalanga and Mmadinare areas were threatened by famine," she said.

Mrs Maswabi pointed out that this was the case even today. "It was very easy for us to forget the harsh times when we enjoyed the good and beautiful rains of the 1970's."

Other panelists were Mr Mosweu, a traditional doctor of the Dingaka Association, Mr Ambros Masalila, Chairman of the Drought Relief Committee and Mr Flix Mokobi - Director of Food Resources Department and Professor Cook-an Environmental Science lecturer at the University of Botswana.

The Professor told the audience that Batswana know very well that drought is endemic in this country and that it always recurrs after every 20 years and lasts for about five years.

He defined drought as lack of rainfall with an unfair distribution of rain in different parts of the country, resulting in shortages of water for demestic purposes, agriculture and wild animals.

The traditional doctor argued that rapid population growth has an immense impact on water reduction. He further explained tht there is no longer adequate rainfal because the young generation and government disregard Setswana traditional and cultural ways of asking for rains from God.

Mr Mokobi said his department procures and distributes food to worst hit areas and to Remote Area Dwellers.

He disclosed that it was important that Botswana should have a national food policy and develop a national food strategy which would be intergrated with the national development plan and provide as its intergral part a national preparedness for any future drought.

Consequences of drought were Mr Masalila's main theme in his contribution. He revealed that 30 000 cattle died between August and September 1982.

Malnutrition, poor quality cattle, seed shortage, unemployment and loss of beasts in big numbers were a few among the many consequences of drought mentioned by Mr Masalila.

He however, remarked that it was a blessing in disguise if cattle die because that leaves room for the required carrying capacity.

CSO: 5000/207

BOTSWANA URGED TO FIGHT DROUGHT

Gaborone DAILY NEWS in English 22 Jun 83 p 1

[Text] MAUN, JUNE 18: Government measures will not by themselves alone improve the drought situation unless and until farmers themselves step up their own efforts in a spirit of self-reliance to make meaningful contributions to combat the adverse effects of the drought and similar natural disasters, farmers who gathered in this North-Western Town were told today.

Officially opening the 1983 Maun Agricultural Show this morning, the Minister of Local Government and Lands, Mr E.M.K. Kgabo, said government will continue to make efforts to assist farmers through various incentive schemes to tackle these problems.

Mr Kgabo however appeal to farmers to help prevent or reduce losses in agricultural production due to the drought.

He said: "Our efforts as a nation should therefore be directed towards the conservation and sensible utilisation of our natural resources, such as water, grazing, soil and wildlife."

Ngamiland farmers were also commended for being exampiary in the implementation of the Tribal Grazing Land Policy (TGLP).

The Minister praised farmers in that District for endeavouring to produce better-bred and mature cattle and expressed confidence that the scheme is bound to fall on fertile ground because of the abbatoir in Maun.

Showgoers also heard how Ngamiland farmers can lead the rest of Botswana in arable agriculture, especially in crop production because of the abundance of water in the District, "an invaluable resource that can be tapped," Mr Kgabo further observed.

He said both traditional crops and horticulture stand a good chance under the Arable Land Development Programme (ALDEP) and other existing programmes provided by the agricultural extension staff.

He went on to say that the recent improvement of the pricing policies of government particularly as they relate to the Botswana Agricultural Marketing Board (BAMB) should stimulate more interest in arable agriculture and government has decided to announce crop prices before the ploughing season. This, said Mr Kgabo, should enable farmers to decide and make a choice on which crops to plant.

"I therefore encourage you to participate actively in production orientated programmes in line with the objectives of the development policy on economic opportunities and our national development plan," said the Minister.

He said Ngamiland District is well endowed with fish resources which provide a firm base for a viable fisheries industry.

He further said it is government's current emphasis to promote productive activities which can create employment in the rural areas and that they have at their disposal some avenues through which they can seek assistance like financial assistance policy whereby government may channel resources into rural areas.

Minister Kgabo also mentioned the importance of disease control in Botswana especially in Ngamiland where both foot and mouth disase and tsetse fly infestation have in the past been major problems.

He said substantial progress has been made by theto bring the situation under control but a lot more is required from both the government and farmers to aim at eliminating these problems.

He warned that they must not destroy disease control cordon fences and appealed that they should bring their livestock for either inspection or innoculation whenever they are required to do so.

On Friday Minister Kgabo visited the Hainaveld Ranches where he was told that there are 72 ranches of which 66 were approved that only 41 farmers signed agreement with government.

CSO: 5000/207

BRIEFS

REDUCTION IN WATER USE--Gaborone, June 10: The Gaborone Town Council has announced some measures that will reduce its water consumption by not less than 60% of water consumption prior to the imposition of water restrictions. In a press release issued by the Town Clerk Mr B. C. Sesinyi today it is acknowledged that the Council is one of the major consumers of potable water and that because of the current drought and consequent water restrictions, the Council has taken firm action towards achieving this goal. According to the release, the Council Parks Nursery which normally consumes 1200 kilo litres of water per month is currently fed with treated effluent water from the village sewer ponds. All water for roadworks is also currently being drawn from the ponds, resulting in a saving of 3,000 kilo litres of potable water per month. The Council also uses bowsers to draw effluent water from the sewer ponds for watering all trees and plants in town and traffic circles. In the schools, the Council has been able with the co-operation of headteachers and students, to effect a reduction in the number of toilet units. The release points out that the Town Council is in the process of effecting further savings in the SHHA areas of the township and water consumed on building contracts. Mr Sesinyi told a reporter that he felt that emphasis should be placed on those areas where there were communal water taps such as site and service areas because there, accountability was difficult. In these areas, he said that people did not feel as much accountable to ensure that there was no wastage of water as in one's own house especially that it was the Council that payed the bulk of payments in such areas. The press release has therefore appealed to all SHHA plot owners to reduce all forms of water wastage and announced that the Council intended changing all taps to "push button" type with a view to avoid leaks at stand pipes. The Town Council was also intending to install a slow sand filter at one of the sewer ponds fur further treating the final effluent, and the filtered effluent water will then be used on all the Council's building contracts. "When all water saving measures come in operation, we expect a saving of not less than 60 per cent of our consumption prior to the imposition of water restrictions," concludes the release. BOPA [Text] [Gaborone DAILY NEWS in English 14 Jun 83 p 1]

CSO: 5000/207

RAINFOREST DECIMATION MAY SPELL DISASTER FOR ECOSYSTEM

London WEST AFRICA in English 7 Jun 83 pp 1338-1339

[Article by Howard Schissel]

[Text] A SPECTRE is haunting the Ivory Coast. The spectre is the growing menace that in less than a generation its primary rain forest, once the densest in all West Africa, is likely to be but a memory of the past. The rapid, and often abusive, exploitation of the Ivory Coast's forestry resources — a key factor in the country's relative prosperity in the 1960s and 1970s — has meant that since independence the tropical woodland has shrunk from over 12 million hectares to less than four million. In spite of calls to halt this massacre and timid government conservation efforts, cutting continues at the alarming pace of some 400,000 hectares a year.

A report prepared in 1980 by a team of experts from Abidjan's Institute of Tropical Geography dramatically emphasised the Ivory Coast's dilemma: "In the face of different consumers of land, the total disappearance of the wooded area is expected by the end of the century." The decimation of this natural resource will have serious consequences for the Ivorian economy and an incalculable impact on the eco-system.

Firstly, the jobs of around 40,000 people employed in the forestry and wood processing industry will be put into jeopardy in the medium term. Further downstream, the activity of the Port of Abidjan, a third of whose business involves wood export, and the Port of San Pedro, near the frontier with Liberia, will be severely affected. Likewise, a third of the Ivory Coast's road transport is accounted for by forestry-related traffic. Secondly, wood exports chalk up foreign currency earnings in the neighbourhood of CFA 85,000m. a year. This source of revenue is liable to rapidly dry up for the hard-pressed Ivorian exchequer.

As the forest recedes, replaced by less fertile savannah bushland, the environmental balance is thrown into disarray. Without the protection of the vegetal cover of the forest, rain water either rapidly evaporates or runs off, provoking serious erosion. This phenomenon has resulted in a dangerous lowering of the water table, even in the southern coastal areas. Yet another negative effect is the diminishing of secondary rainfall further north in the Sahel region.

Ivorian government officials have stressed on numerous occasions that the preservation of the forests must become a national priority. Most development experts, however, are highly sceptical about the government's ability and will to save what still can be saved of the country's forest lands. Important economic and political interests are involved in forestry and their influence often outweighs abstract notions like "the national good".

The most immediate cause of the Ivory Coast's fading forests is the activity of forestry companies. In the search for high immediate profit, these firms tend to log only the most valuable species like Assamela, Sipo, Acajou and Makere, disregarding legislation establishing quotas of different varieties of trees to be harvested. Illegal cutting of protected species is rampant, as is logging in closed national forest areas. A commonly used ploy to get around restrictive legislation is to declare, with the complicity of customs officials, rare tropical hardwood varieties as more common ones.

A government decree some years back theoretically designed to husband forestry reserves by limiting new logging permits to Ivorian nationals has proved to be counter-productive. Ivorian businessmen and politicians often receive these coveted permits thanks to their influence in the state administration. Lacking in both the capital and expertise necessary to properly exploit their concessions, they tend to sub-let them to either French or Lebanese operators. They, in turn, have a unique objective: squeeze to the highest rate of return from their investment. They have little reason to respect government conservation rules for their approach is based solely on short-term profit.

Of course, the forestry companies are not the only villains in the piece. Their activities open up vast tracts of virgin forest land to speculative agriculture. Land-hungry small farmers swarm after the woodsmen and clear remaining vegetation to plant cash crops such as coffee, cocoa, pineapples and bananas. Once soil fertility has been exhausted, farmers often move on to new patches of land leaving behind them unproductive bush.

This process makes the rural areas more vulnerable to the spread of fires like those which ravaged the Ivory Coast earlier in the year (*West Africa*, April 4). In this case not only were thousands of hectares of forest cover reduced to ash, but also large plantations. Even the classified forest of Banco, just north of Abidjan, suffered from the bush fires.

The government's will to go beyond words to action in the preservation of its forest patrimony will be put to a severe test in years to come at the forest of Tai, one of the few remaining wooded areas still relatively intact. Located in the south-western part of the country, it has already started to feel the impact of illegal cutting. A new threat will be posed by the Soubre dam: the population displaced by the dam's flooding will naturally be attracted to the still fertile forest lands in the nearby park.

The forestry industry, in principle, is based on the exploitation of a renewable resource and therefore can be a valuable money-spinner for generations. It is essential, however, that reforestation keep apace with logging so that the long-term potential of the industry is maintained at a satisfactory level. The World Bank has financed a project to replant 25,000 hectares by the mid-1980s. The state reforestation agency, SODEFOR, has not succeeded in replanting more than 3,000 hectares a year. Given the extent of forest destruction, this reforestation programme can be labelled as symbolic.

CSO: 5000/199

ALTERNATIVES FOR FOREST PRESERVATION PUT FORTH

Monrovia NEW LIBERIAN in English 26 May 83 p 3

[Article by C. Kparcon Nardoh]

[Text]

Despite gradual deterioration of Liberia's highest forest since the 1940s as a result of shifting cultivation, 43 percent of the country is still covered with virgin rain forests.

Delivering a research paper on "Rice and Forestry in Liberia" at the Annual Rice Review Meeting of West Africa Rice Development Association (WARDA) Tuesday, Mr. J. Hahnloser, Head of the German Forestry Mission in Liberia said that the 1.7 million hectares or 18 percent classified as National Forest Play a key role in the forestry sector of the country.

According to him, damage and threat to the environment caused by the destruction of the rain forest consists of medium-and long-term deterioration of the natural resources.

It affects the silvicultural basis and amount to a considerable decrease of the economical bebenefits, he said.

Ecologically, Liberia's rain forest obviously have an important intangible value in biotic preservation and wildlife and play an imrole in soil conservation," he stated.

Further, the paper said that the tropical soils are very sensitive in terms of nutrients, water holding capacity and all or ganic."If the forest canopy is opened permanently, they will become hard and impermeable; soil fertility will decrease as a result of changing texture and chemical composition."

Economic wise, Mr. Hahnloser said despite the fact that the forestry sub-sector is relatively small in terms of contribution to the gross domestic product (1980 about $23 million) exports of forestry products are significant and rank as the third largest export commodities after iron ore and rubber.

"In absolute figures, the 1980 forestry exports amounted to a value of $72.5million," according to the paper while the total log production fell in 1981 to the lowest figure since 1973 (General economic depression), the Government of Liberia still derives about 15 million revenue from

its forests through stumpage fees, land rentals and reforestation fees."

On how Liberian forest resources could be preserved, the paper noted that the land use policy, considering the requirements of agriculture as well as silviculture defined by government as as first step to preserve forest resources, are more or less of theoretical value.

It said the farmers have not understood and followed the policy as they prefer to follow their tradition and feelings.

From the foresters' point of view , the paper said, there are several aspects to be considered for finding a practicable solution. "These include establishing and implementation of a proper land use plan based on agriculture as well as on silvicultural requirements; definition and identification of areas of agricultural and silvicultural priority "Reduction of the required agricultural areas by introducing more sophisticated agricultural methods such as rotational cropping, cover crops, mulching and planting of shade trees; preservation of the existing National Forests by preventing uncontrolled farming and logging, the paper suggested among other measures".

CSO: 5000/200

NATION SEVERELY THREATENED BY DROUGHT

Port Louis 'LE MAURICIEN 18 Jun 83 pp 1, 5

[Text] At this moment, despite the downpours of recent days on the high plateaux, Mauritius is passing through a period of serious drought. This is due to a poor pluviometric rate since last January, which results in a considerable drop of the water level in our reservoirs. In all regions of the island, especially in the north, the east, the west, the south, and the center, rainfall has been without exception below the average from last January to May.

The driest month in this period was March, during which very light rainfall compared with the average was registered. Even on the high plateaux the rate was mostly low (see table). The effects of this lack of water were likewise felt on the plantations, especially sugar cane plantations, which were very seriously affected during the last growing season.

Table 1. Rainfall by Region (in inches)

1983	WEST		NORTH		EAST	
	Rainfall	Deficit	Rainfall	Deficit	Rainfall	Deficit
January	4.08	-3.16	0.81	+0.93	13.96	+1.21
February	2.71	-4.56	5.64	-2.35	10.45	-2.24
March	0.17	-8.14	1.38	-7.99	3.42	-11.81
April	1.94	-2.28	2.27	-4.51	3.32	-8.23
May	0.36	-1.65	3.79	-0.80	5.51	-2.59
TOTAL	9.29	-19.79	13.89	-15.65	36.66	-24.87

	SOUTH		CENTER	
	Rainfall	Deficit	Rainfall	Deficit
January	13.29	+1.66	9.92	-3.57
February	6.94	-4.20	6.64	-6.80
March	2.06	-11.04	2.82	-10.50
April	6.28	-4.78	4.30	-4.65
May	4.85	-3.22	3.03	-2.52
TOTAL	33.42	-22.24	26.71	-28.04

With regard to the reservoirs, the water level has shown a drop regarded as "alarming." At Mare Longue, for example, the volume of water at present is only 1.34 million cubic feet, whereas its average capacity is 125 million cubic feet. This situation is reflected in a less dramatic way perhaps in five other reservoirs which are under the responsibility of the Central Water Authority (see table).

Table 2. Reservoir Capacity

	Present Capacity, millions of cubic feet	Average Capacity, millions of cubic feet	Maximun Capacity, millions of cubic feet
Mare-aux-Vacoas	484	698	975
Mare Longue	1.34	125	220
La Ferme	78.4	265	424
La Nicoliere	154.38	204	204
Piton du Milieu	63.31	92	112
Tamarind Falls	27.5	40	80

In the face of such a situation, it is important, if not urgent, that each Mauritian use water judiciously and avoid any waste. One must particularly watch out for faucets which are not completely turned off, where the water leakage, in addition to being a national problem, risks increasing the subscriber's bill.

6108
CSO: 5000/202

GOVERNMENT ESTIMATES ON RECORD DROUGHT

Maputo NOTICIAS in Portuguese 15 Jun 83 p 1

[Article by Abel Faife: "Worst Drought Ever"]

[Text] The latest government estimates indicate that from the time the appeal went out to the international community, in January 1983, to the present, the situation resulting from the drought which assaulted almost the entire nation has worsened significantly. At this time, it is thought that this is the worst natural disaster of this kind ever to attack our country; it has already caused a direct overall loss estimated at "several million contos, with the loss of 1.3 million tons of grain and cassava in the first season of planting."

These facts were announced by Ararda da Silva, minister of domestic trade, in a press conference yesterday. In his capacity as vice chairman of the Commission for Prevention and Control of Natural Disasters, da Silva cited some figures and recounted the unfolding of the disaster, stressing that it had not only taken a harsh toll in our country but in all of southern Africa.

A recent assessment of the situation indicated that, except for Nampula Province, and despite some scattered rains that fell recently on various affected regions, the situation has not changed, since it had not rained for more than 2 years. In the few areas where the rainfall reached 50 percent of the normal local rates, those rates were already extremely low and inadequate to keep the land productive.

More Critical Areas

The prolonged drought has affected zones in almost all the provinces in the country, except for Niassa, Cabo Delgado and the region of Upper Zambezia. It has directly affected more than 4 million inhabitants.

"The situation is most dramatic in the south of the country. There, the most critical zones are those of Chicualacuala, Mabote, Govuro and Vilanculos. These areas are traditionally bad; the average rainfall is only 600 centimeters. The drought in these regions was such that the rate was zero," Minister da Silva declared.

The overall economic loss caused by the nationwide drought amounts to several million contos, according to the minister. The losses include 1.3 tons of grains and cassava lost in the first season crops in the state, cooperative, private and family sectors. This takes in the loss of 30,000 tons of rice in the CAIL [Limpopo Agroindustrial Complex].

In Tete, Manica, Sofala, Inhambane, Gaza and Maputo provinces, production in the first season declined an average 70 to 80 percent, according to data reported in the General Advisory Council of the Agriculture Ministry in February 1983.

The citrus, livestock and poultry sectors have suffered and are still suffering very serious repercussions from the drought.

International Community Responds

"The reaction of the international community to the Mozambican Government's appeal for assistance in facing the record drought can be seen as positive," Minister da Silva said, referring to the first item in the Emergency Program, which pertains to immediate food aid to the affected regions to avoid the loss of human lives.

Heading the list of countries which have responded with donations is the Republic of Zimbabwe (which is itself affected by the drought), with a donation of 25,000 tons of corn. Other donations have come from the USSR (10,000 tons of corn); the United States (23,000 tons of corn, rice and powdered milk); the EEC 915,000 tons of corn); the FRG Red Cross (2,000 tons of corn); the WFP (5,000 tons of corn); and the World Lutheran Federation (300 tons of corn), among others.

A troublesome factor, however, is the great delay before most of the donations reach the country, even after they are announced. This delayed arrival holds up the planning and execution of programs for the distribution of the food to the people affected by the disaster.

"Regarding distribution, all the affected districts in Gaza Province are now receiving assistance and the food situation here has improved considerably since May. This month we are going to complete the distribution to Maputo Province and, in addition to Moamba and Magude, we are going to begin distributing to the affected districts in Matutuine, Manica and Marracuene," Minister da Silva explained.

Agricultural Recovery

However, the solution to the drought problem, which was the second basic point in the government's emergency program, requires a complementary effort to assist the agricultural recovery of the affected areas.

Aranda da Silva reported that the situation is progressing in this regard. Two contracts have been signed with China and Portugal to supply 2.8 million and 2 million pieces, respectively, of agricultural equipment.

The contract with Portugal is already being carried out and the last of the materials (already being distributed in the drought zones) will arrive in September. Regarding the contract with China, only a few formalities remain to be settled.

There is also a donation from the USSR, involving tens of thousands of axes, scythes, hoes and files, and a contract with IFAD, also for farm implements; an international competition is already underway to determine the supplier.

"We plan to completely flood the market, so that no one can speak of a shortage of axes, scythes, hoes, files and other tools. With respect to axes and scythes, the situation has already improved, and regarding plowshares (produced domestically), the situation is very good. We will have produced 15,000 by the end of the year," reported Minister Aranda da Silva.

6362
CSO: 500/206

AGRICULTURAL LOSSES IN SOFALA DUE TO DROUGHT REPORTED

Maputo NOTICIAS in Portuguese 30 May 83 p 2

[Article by Rogerio Sitoe: "Nhamatanda Will Not Harvest Half of What It Sowed"]

[Text] The cash crops--cotton and, particularly, sunflower--are a total loss in all the production sectors. Part of the other crops--corn, beans and "mapira"--did not germinate for lack of water, and what little can be harvested covers only about half the total area under production. This is the situation in Nhamatanda District, in the southwest of Sofala Province, and it is only a small example of the drought toll in this region.

Nhamatanda District, with at least two large state agricultural centers (the Metuchira and Lamego units), represents, if not the most important, one of the most important districts in Sofala Province for the production of cotton and sunflowers, corn and vegetables to supply the city of Beira.

Nhamatanda's administrator told NOTICIAS that, were it not for the drought, the 1982/1983 agricultural year could have been the richest in the last 5 years, because all the sectors--family, state, cooperative and private--had planted an unprecedented amount of land in crops, motivated by the enthusiasm of the peasants and small farmers.

The situation for livestock farming is equally troubling, despite the fact that no deaths have been attributed to the drought. The herds are now feeding on the so-called reserve pasturage, which is usually set aside for situations like this.

As we had an opportunity to observe in Muda, the herd is concentrated in certain limited areas, because the larger areas where the cattle usually grazed are practically bare. Instead of large expanses of green, there are only some sickly and yellowing noxious weeds, which "stubbornly" compete in the parched and increasingly brown soil. Where there were once rivers and lakes, there are only the dry beds where the lizards and rats that threaten to become plagues "play in the open."

Metuchira

The Metuchira production unit is the largest in the district, with a cultivated area estimated at over 3,340 hectares; a harvest is completely impossible in either the first or second season, considering the disastrous condition of the fields at present.

Accompanied by Major Salomoni, director of the production unit, we visited the complex for about 3 hours. There was no sunflower crop to harvest this year in Metuchira since, in the 300 hectares planted, all the plants died before the seeds matured.

Regarding beans, the situation is even worse. Some 300 hectares were seeded; in most of the area the seed did not germinate, and plants that survived will not bear. In the distance, one can see an expanse of over 2 kilometers of empty fields.

Making the situation worse, the corn crop has not produced even the minimum yield to supply the almost 2,000 workers, who require over 50 tons of corn per month, on the average.

Major Salomoni told us that of the 1,000 hectares planted in corn, perhaps a little over 200 hectares will produce, which is "totally inadequate for the internal needs of the enterprise."

Although there are no estimates for the cotton harvest, it is already known that the same fate is expected for the "white gold." In fact, as we could ascertain at first hand, in the 1,500 hectares there are clearings the size of small soccer fields where the cotton succumbed to the heat. In the areas which managed to produce something, the quality is poor; in many areas one can see a couple of "sticks with some dry and completely brown branches, supporting two or three cotton bolls."

The situation is the same in the family farm plots, where the subsistence crops of "mapira" produced little or nothing, and are simply an illustration of the spectre of famine that will seriously threaten most of the population this year.

Matuchira generally mirrors the effects of the drought in the entire district of Nhamatanda. In effect, whether in Lamago, the second largest production sector, or in the cooperative and other sectors, there will be no sunflower crop, and the co ton crop will be insignificant.

The picture is no different for food production. In all the areas, the beans and corn did not germinate or were attacked by the plague of caterpillars. The party and government structures in the district are making a great effort to cope with the situation by planting cassava and sweet potatoes in all the agricultural sectors.

6362
CSO: 500/206

SALT WATER DAMAGING ARABLE LAND IN INCOMATI VALLEY

Maputo NOTICIAS in Portuguese 27 May 83 p 5

[Article by Antonio Sitoe: "Sea Water Damaging Arable Land"]

[Text] Vast areas of arable land bathed by the Incomati River are threatened with salinization from the sea water moving up the river bed because of the sluggish current, the result of the drought that is spread over the Marracuene and Manhica districts of Maputo Province. Some 154,000 inhabitants of Moamba and Manhiça districts are seriously affected by the drought.

Food supplies are running out in some zones of Manhica District, and many crops are given up for lost.

In Marracuene, the residents along the shores of the Incomati River are facing another problem: the invasion of sea water which destroys the crops and threatens the future productivity of the land.

According to a spokesman of the Department of Prevention and Control of Natural Disasters, the effects of the drought are also being felt in the zones of Machangulo, Zitundo and Inhaca, all in Matutuine District, where the situation could worsen if it does not rain soon.

In Moamba and Magude districts, where the effects of this natural disaster are more seriously felt, the situation has reached alarming proportions. In the two districts, about 80,000 and 74,000 inhabitants, respectively, are already suffering the effects of the drought.

Food Aid

In response to the appeal sent out by our government to the international community as a result of the drought, which is particularly affecting the midsection and south of the country, 5,000 tons of corn have already been received and have begun to be distributed in the two districts most affected: 3,000 tons to Moamba and 2,000 tons to Magude.

In addition to the corn, other essential products, including beans contributed by the Mozambican Red Cross, are being distributed to these two districts.

According to the same source, Caritas de Mozambique, an international religious organization based in our country, has supplied fish, beans, rice and other foodstuffs to ease the famine during the next 2 months.

"Although the food situation has eased, the lack of water continues to cause serious concern, since the people are forced to walk for dozens of kilometers in search of the precious liquid," the source added.

The source said that more contributions are expected from international humanitarian organizations and some governments.

Health Situa ion

The lack of water is the primary problem. Since it is essential for food production, personal hygiene and a healthy environment, the shortage logically creates medical problems for the public.

According to a source in the Provincial Health Directorate, although the situation is somewhat under control, with food aid underway, the violent outbreak of cholera which recently affected the province reached major proportions because of the drought.

At this time, the ailments which have most affected the drought victims, particularly children, women and the elderly, are closely related to personal hygiene and diet, specifically skin and intestinal disorders.

Regarding the health measures taken by the directorate, the source said that because sources of water have been drastically reduced by the drought, the few that remain are used to excess; hence the health authorities have been alerting the public to the need to protect these sources and keep them clean.

"We are advising people to boil their water before using it and to plan their meals differently, as a way of avoiding illness," the health spokesman said.

Emergency Program

To alleviate the problem, the provincial organs of the party and government have spared no effort to find food production alternatives, and have created an emergency plan to this end.

The program consists in making full use of all the natural resources in the province--using lakes, streams and lowlands, building dikes and dams--for food production to ease the food shortage.

Certain crops, such as sweet potatoes, cassava and "mapira," which are drought-resistant, are being introduced in some zones as part of this plan.

The provincial government has held separate meetings with farmers in the private, family, state and cooperative sectors, culminating with a general session, and significant steps were taken to implement this food production program.

The drought, which has devastated all of southern Africa, has affected the central zone of our country (Sofala and Manica Provinces) and the south (Inhambane, Gaza and Maputo provinces). It is considered the worst in the last 50 years.

In Maputo Province, the scourge has reached such serious proportions that foreign assistance has been necessary to overcome the evil. In addition to destroying the young crops, the drought has decimated the livestock; in Manhica, about 40,000 head of cattle have died since last December.

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CSO: 500/206

BRIEFS

DROUGHT BRINGS MORE RATS TO SOFALA--The commercial farmers and part of the cooperative and family sector in Sofala Province recently informed the Provincial Directorate of Agriculture of a gradually increasing and unusual appearance of rats in the fields, which could be considered an indication of a plague resulting from the drought. Between February and March, some farm areas, primarily in Nhamatanda, Buzi and Chemba districts, were invaded by a plague of caterpillars which devastated the growing crops. According to a spokesman of the Provincial Directorate of Agriculture in Sofala, the situation was swiftly controlled, since workers were dispatched immediately to the sites to spray the affected area, preventing the pest from spreading to other farm areas. "Regarding the rats, it is still not known if this can properly be considered a plague, but from the reports we have received and from what we have been able to ascertain, it appears to us to be a sign of an invasion of rats," the spokesman admitted. This type of plague is usually related to droughts, a time when these pests easily adapt to the new environment and reproduce rapidly. Obviously, it represents a drastic aggravation of the farm problem, particularly with the rodents. It is noted that the largest plague of rats occurred last year in Gaza Province, where the rodents were consuming dozens of tons of grain per day. [Text] [Maputo NOTICIAS in Portuguese 28 May 83 p 7] 6362

CSO: 500/206

ASSCOM CONGRESS FOCUSES ON IMPACT OF DROUGHT

Port Elizabeth WEEKEND POST in English 11 Jun 83 p 1

[Text]

GRAHAMSTOWN — The spotlight at the Assocom regional congress held here this week focused unerringly on the appalling consequences for the region's economy of the drought.

And arising from the concern expressed by businessmen was an appeal to the Government to complete the scheme to divert the water flow of the Orange River "as a matter of extreme urgency."

Delegates representing chambers of commerce from Mossel Bay, George, Knysna, Plettenberg Bay, Oudtshoorn, Grahamstown itself, East London, Graaff-Reinet and Port Elizabeth needed no reminding of the effects of the drought — savage water restrictions in Grahamstown have prompted hoteliers to display appeals for water conservation throughout hotels.

At Rhodes University authorities were on the point of sending students home early as a water-saving measure, but opted instead for a temporary R15 increase in fees.

As it is, bathing is prohibited and heavy fines are imposed for any student who showers for more than three minutes. Toilets are flushed only with recycled shower water.

Proposing the motion which urges the Government to proceed with the remainder of the Orange River Project, Grahamstown Chamber of Commerce representative Mr Tony Johnson said the tragic consequences of the drought could ill be afforded.

"This region, with good cause, has the highest priority in the search for decentralised development and I suggest that the question of water needs be examined in the context of that effort," he said.

"If it is true that country towns are greatly dependent on their hinterland — and ours is an agricultural hinterland — consider the impact of the development of irrigable land for agricultural production in this area where our prime products (wool and mohair) are exported today from the farms without really touching the local towns."

Mr Johnson said the Orange River project was bold and imaginative but because of pressure on State expenditure it had not been completed and the benefits of diverting water from the Orange River — presently flowing into the sea — into the Sundays and Fish rivers had accordingly not yet been realised.

Mr Solly Rubin, president of the Port Elizabeth Chamber of Commerce, argued that if funds could be found to search for oil then funds should be available to provide water — the lifeblood of industry and agriculture — to the areas where it was desperately required.

Another member of the Port Elizabeth delegation, Mr Bill Gibson, said a message telexed to the congress by the Director-General of Environmental Affairs was revealing because it demonstrated the Government's thinking on the matter.

The message pointed out that the action called for had "a rather sweeping connotation with astronomical financial implications."

But, Mr Gibson pointed out, "any investment made in the project would rapidly be recovered in the form of new jobs which it will create and the increased economic activity in the area."

The congress adopted this motion:

"With due regard to the negative impact of the current drought on the rural areas of the Eastern Cape and bearing in mind the key role played by agriculture in the economic development of the region, and the priority that the Government has placed on economic development in the area, this congress requests Government as a matter of extreme urgency to implement those phases of the Orange River Project which have an impact on Region D."

CSO: 5000/201

DURBANITES ACHIEVE AMAZING WATER-USE REDUCTION

Johannesburg THE CITIZEN in English 17 Jun 83 p 11

[Text] DURBAN. — Durban residents had achieved an "amazing 80 percent saving" in water consumption last month, the Durban city engineer, Mr Don MacLeod, said yesterday.

He said this was an impressive effort and his department was more than satisfied with the effort of Durban ratepayers since the stringent 400 litre per day regulations were introduced recently.

However, he said there were many householders who would have had to pay exhorbitant amounts last month with a surcharge of R10 for every litre used over the 400 litre limit per day. He said that if the department had imposed the penalties many householders would have been facing massive water bills.

From this month the surcharge will be imposed.

He said that there were numerous ratepayers and householders who had informed the department that they just could not abide by the new restrictions and were willing to pay the excessive surcharge "no matter what it costs".

Mr MacLeod warned these residents that if they did not cut their water consumption, devices would be attached to their water mains to limit the overall water supply to a trickle.

In Pietermaritzburg 17 ratepayers have been charged with contravening the water regulations. Three appeared in court this week.

A man who appeared in court earlier this week was cautioned and discharged. Other residents had paid admission of guilt fines.

Umgeni

The circle engineer for Natal, Mr Fred Munro yesterday warned that there could be a severe drain on the resources of the Umgeni River in August and September when vegetable gardeners began planting for the season. He said that many of the farmers irrigated their lands from the river.

He said during this period consumers in the Durban and Pietermaritzburg areas would be required to save even more drastically to allow vegetable farmers the necessary water to produce crops.

He said a considerable saving had resulted in the Pinetown industrial area where last month's consumption was 40 percent less than the previous month's.

CSO: 5000/201

WIDESPREAD EFFECTS OF DROUGHT REPORTED

Johannesburg SUNDAY TIMES in English 5 Jun 83 p 11

[Article by Michael Tarr]

[Text]

THE current drought is the worst in living memory. No sector of society has escaped its effects.

White farmers are in a desperate position. The Government has announced a massive relief programme, but despite this, many will be forced off the land.

Industry will also feel the pinch. In addition to the downturn in the economy, it will also face water and power cuts if next summer does not bring normal rains.

The worst affected are black South Africans in white rural areas and homelands. Those in white rural areas face unemployment and the threat of having to move.

In the homelands, where water shortages are a way of life, the drought has made a normally bad situation desperate. Crop failures and the lack of grazing have spelt disaster.

For most peasant farmers, aid is not available. Many families rely on remittance income to supplement their own production. High unemployment in urban areas has caused this remittance income to dry up. Stock losses, disease and hunger are the order of the day.

Many rural blacks throughout the country are being faced with the stark option: Starve in the homelands, or move to the towns where it may be possible to exist somehow. Hundreds of children have already died.

The drought has brought into stark relief what is happening to our land and water resource base. The facts are extremely worrying, especially in the black homelands where some of the worst abuses are taking place.

In most homelands the land simply cannot support the populations.

The natural grazing over vast areas has been irreversibly damaged, even before the drought. Most areas lack the simplest infrastructure necessary for sound agriculture which the white farmer takes for granted.

What happens in the homelands affects us all. As they become less viable, it becomes increasingly difficult to implement viable rural development programmes.

In some areas action is becoming essential. The PWV area is becoming increasingly dependent on water from the Tugela catchment in the Drakensberg.

High population pressures and overgrazing have already seriously damaged large areas of the Upper Tugela catchment and its ability to yield a sustained flow of water.

Conservation of the Drakensberg and the maintenance of a grass cover is essential to ensure the PWV of water. The same applies to all water catchment areas.

Urban dwellers face the threat of electricity cuts. In the homelands this means nothing as they have never had electricity. Wood is their main source of energy.

High population pressures have resulted in the rate of use being faster than the rate of natural regeneration. Again serious environmental degradation takes place as all woody plants are used for fuel. The drought has helped to accentuate this problem.

The only solution is to encourage people to leave the land. This will enable rural development programmes to be tackled with those who are left behind.

These, if implemented with skill, knowledge and determination, will help halt the downward spiral in which the homelands are trapped.

Research into more efficient water use is vital. Industry can make great savings. Agriculture is the greatest and most inefficient user of water in South Africa.

Israel should serve as an example to us where highly water efficient irrigation systems have been developed. Use of sewage effluent will one day become the norm and we should start now perfecting the required technologies.

Desalination plants, while still expensive, are technically feasible and should be investigated for areas such as the Western Cape.

We have shown complacency in the provision of storage dams. Many sources of water have remained largely untapped and feasibility studies on rivers such as the Umkomaas and Umzimkulu should be undertaken immediately.

Our most serious problem however, remains resource deterioration. To come to grips with this problem requires a policy decision on the part of the Government. As long as they persist in returning people to, and keeping people in the homelands, the problem will get worse.

The current policy is an environmental disaster. All that is happening now is that the problem remains largely

out of sight. When it becomes visible a solution may be impossible.

Hopefully the drought has given an insight of what is to come unless action is taken.

The permanent destruction of our natural resources must be halted. We are poorly enough endowed as it is. Why sacrifice our resources on the altar of a policy that is not going to work?

A high rate of urbanisation is inevitable in South Africa. This must be encouraged and implemented now.

In the urban environment it is easier to tackle the problems of malnutrition, starvation and disease which are endemic in the homelands and now made worse by the drought.

It is easier to tackle the housing and education backlogs. It is in such an environment that the informal sector flourishes and job creation becomes easier.

A programme of rural development accompanied by a movement of people off the land together with an extensive well planned urbanisation policy is needed.

This requires a political decision on the part of the Government if the warning of this drought is to be heeded.

CSO: 5000/201

DURBAN HARD HIT BY DROUGHT

Johannesburg SUNDAY TIMES in English 5 Jun 83 p 11

[Article by Evelyn Holtzhausen]

[Text]

IN THE frontline of the drought, Durban has become a city under siege. The plug is never pulled on bathwater, and blocks of flats display charts measuring the amount of water used daily.

Now the severe water restrictions that affect everyone have become an accepted way of life. And as winter tightens its grip with scant hope of rain for the next five months, the city's 827 000 residents have united in a common cause to save water.

Pyjama-clad householders read their water meters by torchlight in the chill of dawn to monitor their daily allowance of 400*l*.

The emphasis is on recycling as much water a possible in an effort to stretch what little they have.

Brim-filled baths are a luxury of the past, people have forgotten what it's like to water their gardens with hosepipes and far from being taken for granted, water has become a precious commodity to be conserved, controlled and treated with respect.

Sneak

Initially people tried breaking the restrictions by watering at night.

One midnight sneak was reported to have attached his hose to a neighbour's tap, another to have invented a "water-dispensing lawnmower" with a hose attached to his lawnmower.

But increased public awareness led to tip-offs to inspectors and few of the water-sneaks lasted long.

Today most residents are doing what they can to use as little water as possible.

Municipal official Mr Neil MacLeod said that authorities were empowered to cut water supplies to houses where people were disregarding the rationing. And the lesson was being learnt.

Once someone's supply had been cut for 24 hours and then reconnected, they did not exceed their ration again.

In the effort to save water, many people use bathwater to flush loos.

And residents with showers have forgotten what it's like to bath. A shower uses much less water than a bath, and shower water is recycled by use of a basin in the shower.

As much laundry as possible is done by hand in used bath water.

Hosepipes are attached to drains and the recycled bath water is collected in buckets and used to water gardens, wash cars and water plants.

Dishes are allowed to pile up, and only washed every second day.

With these and many other conservation methods many householders have found that they can survive well within the 400*l* limit.

"We have six people living in our communal house," said a Durban student, "and we find that we manage on an average of 200*l* a day."

Mr Basil Peacy, local property manager of a national property company, said: "There is a tremendous spirit of co-operation and we have placed daily charts in the foyers of our buildings to let residents know their daily target and whether they are inside or outside the limit."

Deputy general manager of the Makarani Hotel Andrew Jones said he held daily meeting with heads of department to discuss water consumption.

Guests

"Through careful monitoring we have cut our consumption by more than 30 percent," he said.

Among the measures implemented were the centralising of dishwashing points — instead of one for each restaurant there was one central point — water from "chilling units" was kept for washing, and unused fresh room "jug water" was collected for re-cycling.

"We have found too that guests seem to play the game and we have not had occasion to make any particular appeal to any single guest," he said.

Each room had circulars explaining the need for conservation and people seemed generally to be toeing the line.

This week a specially hired team of water meter readers started their second reading of the 85 000 meters in Durban. They read on average 7 000 meters a day.

Desalination of seawater is another option being explored by the Durban City Council, but it is costly and the work required would not be completed in time to alleviate the drought.

CSO: 5000/201

DROUGHT HAMPERS ANTI-INFLATION STEPS

Johannesburg THE STAR in English 4 Jun 83 p 11

[Article by David Bamber]

[Text]

The drought is forcing the South African Reserve Bank to be far more lenient in applying monetary policy.

With the general forces for a lowering of the inflation rate favourable, the bank had obviously decided that it would once and for all put to rest the widely held notion that the country would have to learn to live with sharply rising costs.

The three major factors that fuelled inflation last year were the steep rise in money supply and salaries and wages and the depreciation of the rand against the currencies of South Africa's trading partners — particularly against the dollar and sterling.

The rand has been appreciating this year, while wage settlements are expected to be more moderate. Money supply has been rising more slowly, but the rate of increase is still too high.

So the bank's remaining major weapon to curb inflation lies in the scope for further control of money supply. But it is here that the drought has dealt its policies a cruel, double-edged blow.

The water shortage is pushing up food prices, and hence the inflation rate, encouraging the bank to tighten its policies. But unemployment which would result from stricter money-supply policies poses a greater problem during times of drought.

Dr Braam van Staden, deputy governor of the Reserve Bank, explains that in the past unemployed blacks were able to return to their homelands, "and somehow they would find food."

Drought makes this far more difficult and this leads to political instability. "There have been suggestions of improving unemployment benefits, but I would prefer to see schemes created which would absorb the jobless — like new irrigation schemes or something else in agriculture."

Dr Van Staden feels nevertheless that the inflation rate could be brought down to single figures, particularly if the drought is broken soon.

Despite this he says too much should not be read into the drop in inflation to 12,6 percent in April — "it is a case of one swallow not making a summer."

This caution is fully justified, especially if one bears in mind that price rises in the same period last year were excessive. A better performance in the current year was to be expected.

There is a feeling in some quarters that the Government will have to take the bit between the teeth and put up with increased unemployment in order to become more competitive in the world.

But if there is one thing that would fuel political instability more than short-term unemployment, it is long-term unemployment. And, even though overseas industry may be "leaner and fitter", most of South Africa's trading partners have admitted that unemployment is with them to stay.

The Reserve Bank is clearly sitting in the middle. It knows what must be done, but local political circumstances make it more difficult to administer the medicine. If it is agreed (as it has been overseas) that inflation is Public Enemy No 1, compromises will have to be made. So although the cure — stricter monetary policy — will be a bitter pill for South Africa, it seems to be the only one likely to work.

Much as it goes against the grain to turn South Africa into a "welfare" state, there may be little option but to emulate Mrs Thatcher and Mr Reagan in tightening up on money supply. The Government could then "buy" political stability by paying better unemployment benefits.

CSO: 5000/201

TRANSVAAL FARMERS PIN HOPES ON EARLY RAINS

Johannesburg THE CITIZEN in English 7 Jul 83 p 11

[Article by Keith Abendroth]

[Text]

FARMERS in the Transvaal are now pinning all their hopes for salvation from financial disaster on early rains — as the drought tightens its grip on the agricultural community to an unprecedented level, according to Transvaal Agricultural Union sources.

A spokesman for the union said yesterday that an in-depth survey completed by the union had revealed desperation in the farming community —"with farming conditions throughout the province varying from very weak to very critical and near disastrous."

Throughout the province it was clear that farmers were awaiting summer "with great tension and fear".

Without exception they were hoping for early rains to save them — to fill dams and to enable early plantings.

Most dams were empty and many rivers had stopped running. Little or no irrigation was being done — and fodder was virtually unobtainable, with some lucerne farmers now getting up to a record R650 a ton.

In many areas cattle herds had been whittled away to only a hardcore breeding herd.

"Crops are generally poor and farmers have harvested far less than they ever dreamt possible.

"Meanwhile the prospects for plantings are sombre and will depend largely on early spring rains."

And at the same time the financial burden of the farmers is becoming heavier because of skyrocketing prices and high interest rates.

"Nevertheless the morale is still high," the spokesman said.

In a breakdown of the farming regions he said that in the Eastern Transvaal most dams were at about 20 percent of capacity; irrigation water was non-existent, the Vaal River had dried up at Ermelo, and in some areas the rivers were the lowest in 50 years.

In the Lowveld dams were between 15 and 30 percent full, irrigation from the Crocodile and Komati rivers had been limited to two and four days respectively a week and only the Letaba still had enough water for irrigation.

CSO: 5000/204

ENVIRONMENTAL CONSERVATION LAW ATTACKED

Johannesburg THE STAR in English 6 Jun 83 p 6

[Article by James Clarke]

[Text] **Environmental conservation — keeping the skies blue, fighting litter, conserving water and soil, preserving virgin areas — is a bit like motherhood. Everybody is for it.**

But what many would like to see is an comprehensive Act of Parliament to regulate it all.

Andre Rabie, professor of public law at the University of Stellenbosch in the law journal, De Rebus, this month says that it should be possible to have a single statute which comprehensively spells out the powers and duties of the various parties involved in the promulgation of environmental regulations and the implementation of environmental legislation.

That is, after all, what the Atmospheric Pollution Prevention Act does, in miniature. It deals comprehensively, in one uniform statute, with almost the entire field of air pollution control, even though all three tiers of government are involved in its implementation.

But isn't the new Environment Conservation Act just such an Act? An all-embracing statute? Far from it says Professor Rabie.

The Government tried to pass it off as the panacea for the country's environmental ills. Indeed, it was described in Parliament as the most important piece of environmental legislation since World War 2.

Professor Rabie traces the origins of the Act to its mundane beginnings. It all began with throw-away containers.

The Government proposed the Disposal of Containers Bill of 1977. The packaging lobby, fearing a tax on non-returnable containers, fought it. A commission of inquiry was established and recommended the Bill be replaced by a wider Bill relating to solid waste problems as a whole.

The Government did not take it up and instead decided to review the whole field of environmental legislation. In 1980 came the White Paper on "A National Policy Regarding Environmental Conservation."

Says Professor Rabie: "Its main features were viewed as constituting a first step towards the rationalisation of environmental legislation through the establishment of a statutory council for the environment and the provision of adequate national legislative machinery for the combating of noise and solid waste".

It came up with a new Bill but this was pulled back and another commission of inquiry set up this time with the laudable brief: "To inquire into and report on legislation to provide for the co-ordination of all action which is intended to, or which may have, an influence upon the environment and to formulate such legislation".

The commission did a "rather superficial" job says Rabie. The Bill, without radical changes became The Environment Conservation Act 100 of 1982. The mouse was born.

The Minister of Environment Affairs announced that the Act was to make provision for the conservation of the environment in its broad context.

"Actually, the Act is not at all as far-reaching and all-embracing as its name tends to suggest," says Professor Rabie. "It really deals only with certain limited aspects of conservation. Its most important provisions regulate the establishment of the Council for the Environment".

In fact, South Africa has had such a council for almost a decade — a non-statutory one. The "new" council remains an advisory body like the old one but its constitution and powers have been somewhat extended.

The Act enables the Minister to establish advisory management committees to run nature areas (privately owned) but that is dependent on the agreement of the Minister of Constitutional Development. The fairness of this was recently

questioned in The Star by law professor Denis Cowan.

The only other important provisions, says Professor Rabie, are that the Act empowers the Minister to make regulations regarding solid waste and noise.

With noise pollution and solid waste Professor Rabie feels it would have been better to have promulgated two separate Acts which could have been comprehensive and uniform in their regulations.

Perhaps the Act's greatest weakness is that "its provisions are not to be construed as amending or superseding any provision or any other Act of Parliament."

So says Professor Rabie, "No uniform or comprehensive noise and solid waste control regulations can be forthcoming in terms of this Act since parliamentary (and other) legislation already is in existence to regulate certain aspects of noise and solid waste control." At best it can tidy up a bit.

NATION'S AIR POLLUTION PROBLEMS VIEWED

Johannesburg THE STAR in English 11 Jun 83 p 11

[Article by James Clarke]

[Text]

South Africa's air pollution problems may get worse over the next decade. But it might do the veld some good.

Escom's chief environmental officer, Mr Harold Egenes says that as South Africans get richer so one can expect an increase in energy consumption, and that inevitably means pollution levels will rise.

World levels of sulphur dioxide, solid particles, nitrogen dioxide and carbon monoxide from burning fossil fuels are rising. Nintey seven percent of the world's energy still comes from fossil fuels. In Third World countries air pollution levels are far above the safety limits set by the World Health Organisation.

Mr Egenes, writing in "The Clean Air Journal" of the National Association for Clean Air, says that carbon dioxide levels are expected, by the end of the century, to alter rainfall patterns.

"Just what the effect will be is not clear," he says. But some authorities believe it could help increase food production. Others believe it will increase temperatures, melt the polar caps and cause the abandonment of many coastal cities because of flooding. That would include most of the world's biggest cities.

He says air pollution and its environmental effects must be taken seriously, but he warns against an "overkill". He also warns against waiting until public indignation forces action.

He advocates that new industries be encouraged to fit adequate air pollution control equipment at the start because retro-fitting can be extremely expensive.

Although Mr Egenes does not mention it, a glaring example is Highveld Steel and Vanadium at Witbank, a relatively new plant, which quickly became the country's most notorious polluter because its "clean-air equipment" was underpowered. Now it is spending R40 million cleaning up — millions of rands more than it would have spent had it installed adequate equipment initially.

South Africa's air pollution laws require industry to take the "best practicable means". The United Kingdom has much the same laws and has achieved a remarkable clean-up of its air.

The United States has tougher laws. It insists, much the same as the Germans, that industry uses "the best demonstrated technological solution" but industry may take into account "cost and other factors such as energy".

Mr Egenes says South Africa has a number of unique problems.

One of them is that our growth rate is expected to double energy demand in the next 10 years. Another is that our meteorological patterns

are unfavourable to the dispersion of pollutants. They tend to stay round. And on the highly industrialised Highveld, winter temperature inversions concentrate pollutants near ground level.

South Africa is also unique in that 85 percent of its energy is derived from solid fuel: compared with 60 percent in the UK and 25 in the US.

Mr Egenes points out that sulphur pollution is not all bad news. Farmers pay large sums to add ammonium sulphate to their lands — and that the concentration of sulphur is far in excess of any fall-out of sulphur from industry.□

CSO: 5000/201

WIDE POWER CUTS NARROWLY AVERTED

Johannesburg THE STAR in English 15 Jun 83 p 7

[Article by Stephen McQuillan]

[Text]

Electricity supplies are back to normal today after the system neared breakdown yesterday because of plant shutdowns.

The problem was caused partly by sabotage months ago at two key electricity generating schemes. These are believed to have cut more than 2 300 megawatts from the Electricity Supply Commission (Escom) capacity.

Thousands of homes were in danger of being plunged into darkness yesterday morning at the breakfast-time peak period. Escom had to produce 15 093 megawatts — the highest demand this year.

Generating units at Camden, Kriel and Matla power stations in the Eastern Transvaal were out of commission and large municipalities, with their own supplies, boosted output to prevent power cuts.

Umgeni power station, near Durban, closed recently to save water, was fired-up as well as the station at Colenso. The two stations were operating at full capacity for at least two days.

The expensive-to-run gas turbine Acacia power station in Cape Town and Drakensberg hydro-electric scheme also joined the scramble to meet demand.

Suspected sabotage in Mozambique cut supply lines from the massive Cahora Bassa hydro-electric scheme, stripping a potential 1 373 megawatts from South Africa's national electricity grid.

Four bombs which ripped through the top-security Koeberg nuclear plant in December have delayed generation from this source by more than a year. It should have been generating electricity from early this year.

One of Koeberg's reactors is now scheduled to reach full output by the middle of next year. When it is fully operational it will produce 920 megawatts.

"I don't think we would be facing power cuts if we were getting electricity from Cahora Bassa and Koeberg. We would have made up for the generating losses suffered because of the drought," said a spokesman for Escom.

He said the generating units at Camden, Kriel and Matla were now repaired and generating capacity could probably be increased to 16 000 megawatts if it became necessary.

A new capacity peak was reached early this morning. Escom reported an output of about 15 100 megawatts which was expected to increase.

Escom has cut about 1 600 megawatts from its capacity by plant shutdowns because of the drought. Generation has been moved to stations with more plentiful water supplies but Escom has warned of possible power cuts at peak demand periods.

Power Sets SA Back in Time

South Africans are slipping behind the times because of the drought.

The country is falling into a time-warp — with clocks losing or sometimes gaining time, according to the weather.

Electric clocks connected to the mains supply are behaving haphazardly because of fluctuating frequency in the current.

The mains current is supposed to run at a frequency of 50 cycles a second, but during peak load times — when the weather is cold — the frequency is upset.

The Electricity Supply Commission (Escom) is struggling to meet the demand because its capacity has been cut by 1 600 megawatts as a result of the drought. Generation has been switched from drought-hit power stations to stations with a more plentiful water supply.

On Monday clocks were running seven minutes and 47 seconds slow. By lunchtime yesterday they were running three minutes behind – despite a fresh start.

"This occurs when the frequency of the electric current does not run at 50 cycles, to which all electrical appliances are geared," said Mr Etienne du Plessis, Escom's chief Press officer.

He said if the frequency fell too much electric motors would also start running slow, but the change would not be noticeable on anything else. Industry would not be affected.

CSO: 5000/201

VAAL DAM WILL GET BOOST FROM RESERVE

Johannesburg THE CITIZEN in English 8 Jul 83 p 11

[Text]

SOUTH Africa is to pull the plug out of one of its most precious water reserve sources to replenish the Vaal Dam.

Water painstakingly conserved in the Sterkfontein Dam on the Drakensberg Escarpment, high above Harrismith, will start flowing, towards the Vaal Dam from Monday, July 18.

In a ceremony that morning the Minister of Environment Affairs and Fisheries, Mr Sarel Hayward, will open sluice gates to send water reserves on the 370 km journey to the Vaal Dam.

Enough water will flow into the dam to supply the PWV complet until the arrival of the — hoped for — spring rains.

Initially 20 cubic metres of water a second will be released — about 15 000 l of water a second or one million a minute.

According to a Department of Environment Affairs and Fisheries spokesman, the flow will be stepped up 48 hours later to 45 cubic metre a second and after a fortnight to 60 cubic metres a second.

But, he said, this did not mean that consumers could relax and start to use more water.

"We appeal to them not to get water happy — the water we are releasing is among the most expensive in the country and will be only enough to maintain the dam at about 20 percent capacity until spring."

The water is from a carefully husbanded reserve source that has taken six years to accumulate.

Farmers along the waterways will be warned not to graze cattle too near the river bed.

The water will flow 22 km to the confluence of the Wilge River and then on to the Vaal Dam — taking between five and seven days to reach the dam.

The whole exercise will see, in effect, a reversal of the water flow from the Tugela.

CSO: 3000/204

BRIEFS

DROUGHT RAISES POWER COSTS--Electricity consumers face a R100 million bill because the drought has forced Escom to switch its generation away from the Eastern Transvaal. A critical shortage of water has forced Escom to close some power stations in Natal and shut down some generators at stations in the Eastern Transvaal. A spokesman for Escom confirmed it would cost about R100 million to switch generation to parts of the country not as hard hit by the drought--and electricity consumers would eventually have to foot the bill. "Of this, R80 million will be spent transporting coal to these power stations during the drought months ahead," the spokesman said. "A further R7 million represents Escom's share of the giant Grootdraai scheme which will bring water from the Tugela River to the Eastern Transvaal. The balance will be spent on new power lines to supply the Grootdraai water pumps." The spokesman said Escom could not use up the last drops of water in the Eastern Transvaal and Natal and stake its hope on rain later in the year. Instead it had decided to switch generation, even if to less efficient power stations, and at great cost. But once the Grootdraai scheme was completed the efficient power stations in the Eastern Transvaal would be able to generate at full capacity again, supplying power through the national grid to Natal. [Text] [Johannesburg THE STAR in English 4 Jun 83 p 1]

POWER CUTS PROBABLE--Power cuts of up to three hours are expected in Johannesburg this winter, even though it will be one of the cities least affected by blackouts in South Africa, it was disclosed today. City Electrical Engineer Mr Wessel Barnard said cuts in supply had become probable because of the lack of generating capacity at Electricity Supply Commission (Escom) power stations. He said the cuts, called load-shedding by electricity engineers, may become necessary during peak demand periods. "The city council will not be able to give specific warning of load shedding, but it will do its utmost not to cause more inconvenience to consumers than is absolutely necessary," said Mr Barnard. He said the supply would first be interrupted for two minutes and switched on again for ten minutes. This would enable consumers to prepare for the main power cut which "could last up to three hours". Mr Barnard said load-shedding would generally affect only residential areas and all suburbs would be equally affected. Johannesburg buys one third of its electricity from Escom, allowing the city to cushion the effect better than local authorities without their own power stations. The municipality operates three

power stations--Orlando and Kelvin A and B at Kempton Park. Four other cities, Port Elizabeth, Pretoria, Cape Town and Bloemfontein, also generate much of their own electricity. Mr Barnard said earlier that Johannesburg bought only 40 percent of its total supply from Escom during peak winter periods. [Stephen McQuillan] [Text] [Johannesburg THE STAR in English 8 Jun 83 p 1M]

DROUGHT RELIEF FOR LEBOWA--One of South Africa's biggest supermarkets, OK Bazaars, has donated R100 000 food products to be distributed by the Red Cross and Operation Hunger to the needy in drought-stricken areas. In a statement OK Bazaars says its donation of food products has been selected by a panel of nutritionists, including Red Cross president, Dr Pieter Smit. OK is one of South Africa's private sectors that have become increasingly involved in drought relief, with money, foods, goods and skills being donated by a wide variety of companies. Other concerns which have donated large amounts include Checkers, the Premier Group, Pick 'n Pay, the Employment Bureau of Africa and the SA Sugar Association. A measure of the drought disaster can be gauged from isolated statistics which show that in KaNgwane 11 000 peasant farmers face starvation in their plots and in Kwazulu, Operation Hunger usually funds a feeding scheme for over 30 000 children. OK says the first truckload of 5 000 kg of food--the equivalent of 9 000 tins and jars divided equally across the six selected food products was delivered on June 22 to the Jane Furse Hospital in Lebowa. It provided this area, one of the worst affected by the drought, with 30 000 highly nutritive meals. Dr A. Makunyane, Director of Health in Lebowa, accepted the donation from OK's director Dr Alan Fabig. The next truckload will be dispatched next month. [Text] [Johannesburg SOWETAN in English 5 Jul 83 p 3]

DESTRUCTION OF WHEAT CROP--Cape Town--Farmers fear much of the Swartland wheat crop worth about R25 million could be destroyed if rain continues to fall in the area. Mr Peter Robertson, chairman of the Western Cape Agricultural Union, said he knew of no damage to crops so far, and that many farmers had in fact welcomed the cold as it eliminated pests and was good for the grain and fruit trees. But farmers, particularly in the Swartland area, feared that more rain would damage the wheat crop. "We would welcome not having more rain in that area. I know it is a strange thing to say, when some areas of the country are suffering from drought, but if the water-logged ground receives any more rain, the wheat crop could be affected by root diseases." [Text] [Johannesburg THE CITIZEN in English 7 Jul 83 p 11]

CSO: 5000/204

BRIEFS

MAIZE CROP HALVED--Mbabane--Swaziland's maize crop is expected to fall by 50 percent this year because of drought. A Ministry of Agriculture spokesman said in Mbabane yesterday that Swaziland normally had a crop of about 85 000 tons a year, almost 80 percent of its domestic needs. [Text] [Johannesburg THE CITIZEN in English 12 Jul 83 p 5]

CSO: 5000/209

DROUGHT RELIEF PROGRAMS IN CHIREDZI DISTRICT REPORTED

Bulawayo THE CHRONICLE in English 7 Jun 83 p 3

[Text]

WATER from sand abstraction projects will soon be in production on the Lundi, Sabi and Mwenezi rivers according to Chiredzi's District Administrator, Cde Christopher Chingosho.

As the drought in Chiredzi district and the Lowveld in general worsened, water supplies to villages needed to be augmented.

Sand abstraction equipment would soon be installed on the three dry rivers to supplement water from boreholes, wells and other sources, he said.

Chiredzi district was in Region Five, classified as a very dry area, and so depended to a large extent on irrigation for crops.

Sites had been chosen for a number of dams which would be built with the combined efforts of the Ministry for Water Resources and Development, the District Development Fund, the district council and the district administration.

Cde Chingosho, who is also chief executive officer of the local district council, said Government departments were liaising in the various projects under way in his district.

Water projects were undertaken mainly by the Ministry of Water Resources and Development and the DDF, he said.

Several village water supply schemes, including piped water had been completed and others were under construction.

The villagers were all aware of and appreciated the need for self-reliance and were contributing much to the construction of their water supplies, said Cde Chingosho.

Livestock in the Chiredzi communal lands was suffering terribly from the drought and in many villages, the water supply was extended to stock watering troughs, set apart from the village supply.

The peasant farmers were aware of the gravity of the drought and were selling their cattle to the Cold Storage Commission, making some profit out of the situation, rather than lose their livestock through starvation.

"The people now see the need and appreciate the gravity of the situation and are responding positively to the suggested solution of easing their cattle losses," said Cde Chingosho.

Schools in the district have been reconstructed and new ones built. Although there was enough school space for children of school age, more schools would be built to meet the increased needs of the future.

"Education is a basic need and we feel that every child of school-going age should be in school," said Cde Chingosho.

The building of clinics, roads and bridges are also projects in Chiredzi's development programme and Cde Chingosho felt that work was progressing quickly and smoothly.

"However, we will never come to the end of development. It's a continuing process and we can never say that we have finished developing," he said.

The drought relief programme, which has been taken over by the Department of Social Services in the district, was moving well, with the distribution of food to destitute people and maize from the Grain Marketing Board available for those who could afford to buy it.

Cde Chingosho said the problem of Mozambican refugees in the district was under control, but gave no further details.

He said that Chiredzi was a diversified district, made up of several different economies, including the communal lands, the sugar and citrus estates, commercial farms and ranches as well as the safari and game areas.

"It represents a great challenge because of this diversity," he said.

CSO: 5050/205

BRIEFS

AFFORESTATION PROJECTS--The World Bank also approved a loan for rural afforestation projects. The $7,3 million credit from the International Development Association (IDA), will be used to establish a foundation for a comprehensive afforestation programme in the communal lands. The project is expected to enhance knowledge or rural inhabitants' attitudes towards, and to generate interest in, tree planting and conservation. The project includes the establishment of about 48 nurseries in severe wood deficit districts, and nine block plantations totalling about 1 400 hectares near major population centres. Training will be provided to staff of the Forestry Commission and extension services of the Ministry of Agriculture, and to farmers. Among the studies to be carried out are an attitude survey of the target population, a forest resource survey, and a wood utilisation study. [Text] [Harare THE FINANCIAL GAZETTE in English 10 Jun 83 p 7]

CATTLE DEATH DRAINS DROUGHT AID--Bulawayo--The drought is taking an increasing toll on cattle in the Filabusi district and this has forced more people to apply for drought relief food aid, it was reported this week. The district administrator, Cde Phillip Bhebhe, said on Monday that to be eligible for drought relief aid a person had to own less than eight head of cattle. Because cattle have died some of those people who did not qualify for relief were now applying for aid, he said. "The situation was getting worse, with cattle dying at the rate of 30 a day." The area bearing the heaviest brunt on the drought was the Godhlwayo communal land which borders with Mberengwa. Cde Bhebhe estimated that the district's population of 65 000 had lost more than half its cattle. There was a desperate attempt by a communal farmers to cash in on the CSC drought relief operation by selling all cattle still in a condition to be sold. Farmers were getting as little as $25 an animal, he said. All the farms in the district bought for resettlement had been overrun by cattle, and farmers were now driving their cattle across the Bulawayo-Zvishavane road to find grazing on commercial farms in the Insiza district. Cattle from as far as Mberengwa were being left anywhere where there was a bit of grazing. [Text] [Harare THE HERALD in English 8 Jun 83 p 3]

SEVERAL DAMS DRYING UP--On May 30 Khami Dam was empty, and Upper Ncema was 0,9 percent full, the chief hydrological engineer reported yesterday. The capacities in other dams were: Mananda 6,2 percent; Tiyabenzi 48,1; Umgululu (Figtree) 51,7; Umgusa dams 60.8; Antelope 77,2; Blanket 72,1.

Ingwezi 62,4; Inyankuni 61,7; Mayfair 59,5; Lower Ncema 77,6; Suri Suri 7; Rixon 10,7; Sheet 20,9; Silalabuhwa 34,3; Tuli Makwe 89,2; Umhlanga (Plum-tree) 41,3; Umzingwane 26,5; Blockley 71,2; Cactus Poort 92; Claw (John Mack) 33,1; Darwendale 54,6; Dutchman's Pool 84,1; Hunyani Poort 64,2; Ngesi 20,2; Ngondoma 73,1; Sebakwe 30,8; Whitewaters 20,7; Eben 57,3; Mazowe 38,6; Mwarazi 91,6; Mwenji (Lake Oaks) 93,5; Amapongokwe 58,3; Bangala 16,4; Impali 75,9; Kyle 54; Lesapi 8,6; Manjirenji 52,4; Odzani 97,6; Palawan 64,9; Ruti 26,4; Siya 38 and Mushandike 29,6. There were no returns from the Range and Gwenoro. [Text] [Harare THE HERALD in English 10 Jun 82 p 7]

DROUGHT THREATENS TROUT HATCHERY--Drought has affected trout farmers with less than half the needed amount of water flowing through the river that supplies the largest commercial hatchery. This has forced Inyanga Trout (Pvt) Ltd to cull fish earlier when they are still smaller than usual so that the remaining fish can have enough water. The company's operation on the Nyakupinga River near Juliasdale needs more than 28 litres a second for each of the tanks to ensure the maturing fish have the right amount of aerated water at all times. But the river is running at 280 litres a second instead of the 700 litres needed for the 25 tanks, which has delayed the commissioning of five new tanks designed to boost production from 165 000 to 200 000 fish a year. It was not true, said a company spokesman, that a disease in the hatchery was the cause of the supply problems as had been reported. The general manager of Inyanga Trout, Mr Tim Peatling, said the trout drought would not affect the industry seriously. Above, the Nyakupinga River is completely dry downstream of a weir used to supply the fish tanks with the entire flow now being diverted. [Harare THE HERALD in English 10 Jun 83 p 7]

CSO: 5000/205

GOVERNMENT PANEL DISCUSSES ENVIRONMENT ISSUES

PM011046 Moscow IZVESTIYA in Russian 25 Jun 83 Morning Edition p 2

[TASS report: "Nature Protection"]

[Text] A routine session of the USSR Council of Ministers Presidium Commission on Environmental Protection and the Rational Use of Natural Resources was held 23 June.

The draft basic guidelines for an integrated scientific and technical policy in the field of nature protection for the period through the year 2000 prepared on the instruction of the USSR State Committee for Science and Technology were discussed. The draft stipulates that the creation of low-waste manufacturing processes and waste-free production units which make it possible to considerably reduce or completely eliminate environmental pollution, to ensure the intensive and comprehensive processing of mineral raw materials, and through this to obtain valuable additional output is a most important avenue in the retooling of industry. The implementation of an integrated scientific and technical policy in the field of environmental protection and the rational use of natural resources will enable USSR ministries and departments and union republic councils of ministers to accelerate the introduction of the most up-to-date scientific and technical achievements and to focus scientists' and specialists' attention on studying unresolved ecological problems.

The question of the work experience of oblast nature conservation inspectorates in the Ukrainian SSR was examined. It was noted that these inspectorates participate energetically in developing nature protection measures and monitoring their implementation at local level and carry out information and propaganda work in the sphere of environmental protection and the rational use of natural resources. The Donetsk, Rovno, Voroshilovgrad, and Odessa oblast nature conservation inspectorates work most efficiently. The positive experience accumulated by them can be used in other republics.

The session approved the commission's work plan for the second half of the current year.

CSO: 5000/134

PROTECTION OF URBAN ENVIRONMENT

Moscow Air, Water Concerns

Moscow VECHERNYAYA MOSKVA in Russian 4 Jun 83 p 2

[Interview with M. G. Khort, chief of the Section for Protection of the Environment of Mosgorplan [Moscow City Planning Commission], by a VECHERNYAYA MOSKVA correspondent: "What the City Breathes"]

[Text] Tomorrow is World Environmental Protection Day.

VECHERNYAYA MOSKVA's correspondent asked the chief of the Environmental Protection Section of Mosgorplan, M. G. Khort, to tell about the work aimed at protecting the environment around us in the capital. Here is what he reported:

"Nature conservation measures are singled out by a special chapter in the plan for Moscow's social and economic development. The CPSU's MGK [Moscow City Committee] and the Mossovet [Moscow Soviet of People's Deputies] ispolkom pay constant attention to this matter. The scale of this activity in our city is truly enormous--about 500 million rubles were spent for these purposes during the last five-year plan.

"Protection of the air basin is a problem of paramount importance for all industrial centers, such as our capital. During the last 2 years of the 11th Five-Year Plan alone, 675 gas-scrubbing and dust-scrubbing installations were put into operation at the city's enterprises. Industrial and municipal facilities, including boilerhouses and TETs's, have converted to gas fuel, enabling dustiness and pollution of the air to be greatly reduced. In recent years more than 30 production facilities that are unfavorable from a hygienic standpoint have been sent outside the capital's city limits.

"But there are problems that still await solution. For more than a thousand enterprises and more than 500,000 automotive vehicles are concentrated in the city. Motor transport contributes more than half of all the polluting substances in the capital's atmosphere. In many motor pools work is constantly under way to improve quality in the repair and operation of engines, and the harmful-substance content of exhaust gases is strictly monitored. Almost all motor pools have instruments for checking and adjusting engines. However, they are not being used fully everywhere.

"An experiment named 'Atmosfera' was recently conducted, in which tens of scientific institutions and organizations participated, and it showed that much still remains to be done.

"The city's water bodies are the subject of the constant concern of Muscovites. In 2 years more than 60 purification structures have been built and put into operation, and the discharge of unpurified industrial effluent into water bodies has been eliminated. Moscow's potable water is, in taste and hygienic indicators, among the best in the world.

"Trees, shrubbery and flower gardens not only beautify the city but also are a most important factor in making the inner-city environment healthy. Each year new parks and squares appear. Right now they are being established in the Nagatino Floodplain, in Orekhovo-Borisovo and in the Babushkinskiy and other rayons of the capital. Fifty-one examples of the garden and park art have been designated state monuments of nature and have been taken under special protection. The establishment of zones for the special protection of natural areas--reserves and natural monuments--in the city's protected forest-park belt, which is correctly called the capital's lungs, is continuing.

"Muscovites are doing everything to see to it that there is always a clear sky above the capital, that its water bodies will be a still brighter blue, and that the greenery on its streets will be a still more emerald green.

Alma-Ata Air Pollution

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 24 Jun 83 p 4

[Article by N. Maslov, APN [Novosti Press Agency] correspondent: "Alma-Ata: The Air Basin Will Be Clean"]

[Text] There are 76 square meters of green plantings per Alma-Ata resident. Alma-Ata's wide streets look as if they had been cut through small groves of poplar, oak, elm and birch. Mountain streams, bursting into the city, scatter into small irrigation streams, and murmur in concreted canals, giving moisture to the trees and bringing coolness to the people. In the parks and squares is an abundance of flowers and fountains. All this serves as a powerful filter, which cleans the air basin of Kazakhstan's capital. Moreover, the cool air masses that flow from the mountain summits ventilate the city.

True, the situation is somewhat different in the winter. The air temperature within the city limits is lower than in the mountains. Air streams no longer rush into the city but pass above it, slipping a dense cold "pillow" along it. The speed of the valley wind is not great: 1-1.5 meters per second. This is not enough for full purging of the city's air. So a number of Alma-Ata's scientific-research institutes are now working on the problem of artificial aeration of the capital. Already there are bold technical ideas which, however, need verification. Several years ago a special center was created for the study and monitoring of environmental pollution, and, in January of this year, a state inspectorate was formed for the protection of atmospheric air. Specialists have made an "inventory" of the sources of discharges into the atmosphere and are completing the development of standards for maximum

permissible discharges for each enterprise and of measures that will enable them to be monitored. A number of industrial facilities and activities have been sent outside the city limits. And those that remain have been supplied with effective gas scrubbers and dust-trapping installations. According to preliminary data, the amount of harmful substances discharged into the air in 1983 has been reduced by 7.5 percent from last year. However, vehicles with the traditional fuel--gasoline--and the toxic exhaust gases prevent a final solution of the problem. And although strict monitoring over adjustment of the engines' fuel apparatus has been arranged, automotive transport remains the chief "poisoner" of the air medium, as before.

Intense studies of this complicated problem are now being made in Alma-Ata, and already the first harbinger of hope has appeared. In the northwestern part of the city a refueling station which is not entirely ordinary has gone into operation. Heavy-duty trucks come here. Gas tanks that are filled with propane and butane gas have been installed on them instead of gasoline tanks.

What does this do for the city? The air basin has been made significantly healthier. The exhausts of the "propane trucks" are practically nontoxic. Operating at high rpm, they discharge one-tenth as much harmful substance as do "gasoline" trucks. At fewer rpm's, the difference is still greater: a "propane engine" pollutes the air one-fortieth as much as a gasoline engine does.

Moreover, the replacement of gasoline by gas promises substantial economic benefit: liquefied gas as a fuel for motor vehicles is 40-50 percent cheaper than the traditional fuel--gasoline. And the service life of a "gas" motor vehicle between overhauls is increased 2.5-fold.

The problem of the drive against pollution of the city's air will be solved also by another method--the replacement of public motor-vehicle transport that operates on gasoline by electrical vehicles. In coming years electrical transport, mainly subway, will assume the main load for hauling passengers. With the startup of all these lines, it will haul more than a third of the capital's passengers.

New trolleybus and streetcar lines also will start to operate. Already this year the electrical transport of passengers is being augmented by 50 comfortable trolley buses and streetcars that have many seats.

11409
CSO: 5000/157

MOSCOW NOISE CONTROL PROBLEMS DISCUSSED

Moscow SOVETSKAYA KULTURA in Russian 7 May 83 p 6

[Article by Yu. Somov: "Noise and Antinoise"]

[Text] We live in a world resounding with noise. Sound is speech, music and the rustle of leaves. However, when the force of sound exceeds allowable levels or disturbs us with obtrusive constancy, then we complain about noise.

Specialists assert that never before has noise infringed upon people as it does now. A new term, "sound sickness" has appeared in medicine. The nervous, cardiovascular, and endocrine systems react to excessive sound with disorders.

"With respect to the degree of damage inflicted upon the human organism in cities, sound has taken second place after atmospheric pollution," says B. Tartakovskiy, department head at the Acoustics Institute. "Noise in the air is the same as pollution, only the damage doesn't come from the outside, but is internal and structural. Although noise is an inevitable companion of the scientific-technical revolution, it nevertheless can and must be fought."

With this goal in mind scientists and engineers have developed solutions with surprising results, for example, antinoise.

Picture this. You open the window wide on a summer evening and together with the invigorating evening breeze and the aroma of linden trees and fragrant flower beds, the dissonance of urban noises breaks into the room. But all you have to do is press a button in a wall panel and it is as if the noise had been broken by a hammer. Outside it is rustle and rumble, but it is quiet in the room.

This is "antinoise," or, to use the expression of associates at the Acoustics Institute, "active methods of compensating for sound." At the basis of these methods is the old principle of "like against like." In other words, one sound source works in counterphase against another and extinguishes the noise pollution just like a draft puts out a candle. This is not a technical fantasy, but a prospect for the near future.

B. Tartakovskiy, incidentally, he is the chairman of the section for the struggle against noise and vibration at the interdepartmental council for environmental protection at the Moscow Gorispolkom, speaks about this in a quite matter of fact way.

However, if the introduction of "antinoise" is a question for tomorrow, today the Street imeni 26 Baku Commissars in the capital is noise-free already. Well, not all of it, but at least that section where the roadway is a few meters lower than the sidewalks. This difference in levels has turned out to be sufficient to prevent the noise from passing vehicles from reaching the windows of apartment buildings.

I. Karagodina, laboratory head at the Scientific Research Institute for Hygiene imeni Erisman, explained to me: "This section initially had suitable relief, and in addition, the roadway was lowered." From her I also learned about another method of noise protection. If apartments are protected from roadways by a 3-4 story protective screen of buildings housing stores, workshops, and other service enterprises, then the apartments are quiet, and norms for sound insulation will be observed.

During this five-year plan in Moscow alone it is planned to introduce 650,000 square meters of sound insulated area, that is 10-15 percent of total new construction. This is not as small as appears at first glance. After all, noise insulated homes are only needed where the facades of buildings face main arteries. Within courtyard areas, where it is far from roadways, ordinary buildings can and should be built.

During massive urban construction the important question arises: What methods of sound protection are the most simple and least costly?

V. Kreytan, associate at TsNIIEP Zhilishcha [Central Scientific Research Institute for the Economics and Design of Residences], thinks that the most economical method of solving the problem is the hermetic sealing of structure joints. It is essential to organize the series production of three pane window frames. There should also be a reexamination of apartment arrangements so that, in general, windows of auxiliary rooms face the noisy sections of streets, while the bedrooms and living rooms "look" out into the courtyard. There are other such "trifles."

These "trifles" include, for example, "floating floors." The builders lay the parquet so that between the interfloor covering, similar to a layered pirog, there is a filling of air between the crusts. It is good at absorbing the so-called "shock noise." Your upstairs neighbors can dance to their hearts' content, or move heavy furniture around from morning to night and it will be no problem. The floating floor is also a floating ceiling, and reliably absorbs the neighbors' indefatigable activities.

Unique "sandwich walls" are another detail. Double panels are filled with some sort of low density material or just empty space in which electrical conduits had previously been installed. Such sandwich walls do an excellent job of absorbing noise. No matter how much your neighbor sneezes, he will not hear your "bud' zdorov" [Gesundheit].

One could continue the list, there are more than enough engineering discoveries and theoretical recommendations. However, there is no special need for an enumeration. Something else is needed: the close coordination of theoretical developments with practice to ensure that already discovered technical solutions have a reliable material base and a precisely developed organizational system. To be frank things are still not always smooth with regard to the introduction of scientific developments.

For example, a sound insulated building was built on Dmitrovskoye Shosse in Moscow. Its windows are hermetically sealed, with three panes instead of two, and practically no noise enters the apartment. However, not everything had been thought out with respect to the ventilation system. Noise is noise, but one cannot get along without fresh air.

In another section of Moscow--Otradnoye--a sound insulated building almost one and a half kilometers long is being built. Here everything is in order with respect to ventilation, but the building time is being hopelessly stretched out. The first two entrances have been built, but the remaining have been stopped for an indefinite period. Antinoise work is new to the builders. This means confusion and difficulties. In addition, the construction industry has still not mastered the series production of special sound insulation materials.

Sometimes scientists' efforts are reduced to nothing because of construction oversights. Norms allow noise levels of 30 decibels in residences, and 40 in courtyards at night, in the daytime they are 10 decibels higher. What is 30 decibels? It is the rustle of leaves on a calm day or the sound of light rain on the window. It wouldn't be bad to live in such conditions. The problem is, however, that these norms are far from always observed.

As a rule, the panels between rooms should reduce noise by 40 decibels, and the walls between apartments by 50. However, do they? Sometimes. It all depends upon the construction materials and what the builders do with them. At some places they forget to caulk the joints and at others they fill the cracks. In addition, under the present tradition residences are accepted without checking their acoustic properties. The commission examines how the floors are laid, how the ceilings are whitewashed, and how the doors are hung; this is only on the first floor at that, they are not interested in the second. It turns out that the builders' flaws are paid for by the dwellers of the "living environment"--noisy apartments--created by them.

In short, noise is a serious matter and trifles will not counteract it. Architects, medical specialists, designers, and builders must solve this complex problem. The creation of conditions for urban dwellers' normal work and relaxation depend upon their joint efforts.

11574
CSO: 5000/146

UZBEK ENVIRONMENTAL PROTECTION EFFORTS OUTLINED

Moscow TRUD in Russian 5 Jun 83 p 2

[Article by N. Khudayberdyyev, Chairman of the Uzbek SSR Council of Ministers, under the heading "World Environmental Protection Day": "Nature, An Honest Partner"]

[Text] Socialist society, with its humanist ideology and planned economy, has been able to avoid many of the negative consequences of man's interrelationships with nature which are inherent to the world of capital. But we, too, have not avoided losses. People unexpectedly and sharply become aware of the anomaly they themselves have created when they discover they are not always breathing clean air, that a river known from childhood is shallower, that the birds and animals which had until quite recently enlivened the forests, groves and steppes have grown scarce and sparse.

The adoption of a number of USSR and union republic environmental protection laws, the famous CPSU Central Committee and USSR Council of Ministers decree on this problem and, finally, the corresponding article in the new USSR Constitution have been a recognition of this situation and an effort to leave to our descendants a bountiful, flourishing Earth. Beginning in the 10th Five-Year Plan, environmental protection and the intelligent use of natural resources have been an integral part of the country's State Economic and Social Development Plan. Environmental protection and natural resources use have thus been transformed into a national economic planning branch with a precisely delimited sphere of activity and a precise legal and material foundation.

Some experience has been accumulated in this area, in animal protection in particular, in the Uzbek SSR. In resolving our specific republic problems of protecting and multiplying our wild animals and birds, we proceeded from the prerequisite that they are an inseparable part of the overall, global problem of protecting the biosphere and its components -- the land, air, water and plants.

Let me cite an example. Growing our primary crop, cotton, requires, as we know, the use of large amounts of chemicals -- pesticides, herbicides and defoliants. But, while destroying agricultural pests and helping increase yields, chemicals adversely affect the environment, reaching animals through the soil and water, and even those animals living considerable distances from human economic activity.

A decisive turnabout has been made in the republic in recent years towards replacing chemical means of plant protection with biological means. On the basis of scientific recommendations and developments, laboratory-factories are being built everywhere to artificially raise entomaphage insects, antagonists to agricultural pests. Today, we could name hundreds of farms and entire rayons in which the transition to absolutely harmless and, I might add, highly effective biological methods of treating sown areas is complete. By the end of the current five-year plan, 3.4 million hectares of republic fields will be being treated using this method.

While increasing year by year its production of farming and stockraising output, the republic is utilizing in a planned manner more and more land which has, in part, been the traditional dwelling place of wild animals and birds. Zoologists estimate that there are about 500 species in Uzbekistan. It is no easy task to protect and preserve living nature under such conditions. We need the coordinated actions of numerous subdivisions of the national economy and a well thought out and carefully planned long-range strategy of environmental protection and natural resources use. This work is being led by the Central Committee of the Uzbekistan Communist Party and the republic government, which have defined the concrete directions of ministry, department, party, soviet and public organization activity to prevent negative consequences of man's intrusion into the world of nature.

The preserves have become our centers of environmental protection activity. Ten years ago, there were only three here; now there are 12. Together with the game reserves, they cover 380,000 ha. The republic has carried out a large-scale, multilevel "census" operation in the steppes, desert, foothills, rivers and lakes, which has given us an overall understanding of the status of the genofund available to us and has indicated what sectors are threatened or critical and which are comparatively well-off. I anticipate that one result of this unique inventorying has been the just-published Uzbek SSR "Red Book" of 63 species of rare and endangered animals in the republic which need special protection. The scientific and practical work of preserve collectives and the efforts of biologists and a large number of volunteer helpers who are nature lovers has helped us preserve in their pristine state many typical pockets of Uzbekistan nature, with the flora and fauna indigenous to each. Steps have been taken everywhere to reacclimatize and selectively breed such valuable species as the Bukhara deer, kulan, drofa-krasotka and pheasant.

An experiment recognized as being unique in the scientific world has been conducted by Uzbekistan scientists and colleagues from Moscow to save the graceful Jeyran antelope, which have adapted poorly to a rapidly changing environment and which are on the border of complete extinction because of that. A specialized nursery, the world's first, has been created in desert terrain with the task not simply of preserving the Jeyran, but of significantly increasing the herd in a brief period of time. Forty captured animals were released into a huge, 5,500 ha, fenced pen. Thanks to the painstaking, selfless work of biologists who developed methods of intensive herd reproduction in the course of observations of the Jeyran, the increase in the nursery herd turned out to be three times higher than under natural conditions. The number of animals quickly reached 300. Plans have already been worked out for resettling them in several preserves with suitable conditions. There is also a plan for creating a desert-steppe preserve on

the Ustyurt Plateau in Karakalpakia for rebuilding the kulan, mountain goat, arkhar and cheetah herds.

The creation of farms specialized to raise game and of commercial hunting farms, which in a sense concentrate in one place the protection, reproduction and hunting of game, has turned out to be an effective way of rebuilding reserves in the animal world and meeting the demand among the populace for game meat and pelts without any damage whatsoever to nature. The "Rassvet" sovkhoz in Syr-Darya Oblast, for example, is well-managed. It raises wild waterfowl on a semi-restricted basis. Just during the last two years, this sovkhoz has raised 21,000 [kryakovyye: "quacking"] ducks, 11,000 of which have been released into water impoundments, with 10,000 being sold to the populace. Similar game-breeding farms are now operating successfully in Bukhara, Kashkandarya, Surkhandarya and Namangan oblasts. There will be such farms everywhere in the near future.

In order to improve conditions for reproducing and increasing the number of wild animals within hunting areas, we are creating so-called quiet zones which will, within a few years, be completely off-limits to hunting. When animals here are suffering from a shortage of food, workers and active members of the Uzbek Hunting and Fishing Union arrange to feed the wild goats, boars, kekliks and pheasants.

The hydrological conditions of the Amu Darya delta have changed significantly over the past 15 years, causing a decrease in spawning grounds for the main commercial fish and fewer places for young fish to mature. This had led to a sharp reduction in their reproduction and a serious decrease in the catch in the republic's main commercial fishing grounds, the Aral Sea. There was but one way out, to quickly create on an industrial basis a system of ponds for breeding fish artificially. This task is practically finished. Suffice it to say that, by the end of the current five-year plan, Uzbekistan plans to be receiving up to 500,000 quintals of fish from our deep-blue artificial fields; that is twice as much as the shrinking Aral Sea yielded during its most bountiful years.

There is more concern in the republic for the pollinating insects on which plant life greatly depends, and consequently animal life as well. In a brief period, we have doubled the number of beehives; we are operating 35 specialized bee sovkhozes and have considerably increased the army of amateur apiarists.

Environmental protection has become an essential management link. We can no longer act as before in the workshop of nature. Target planning, the precision sciences and the entire rich arsenal of scientific-technical process are coming to the aid of environmental protection and natural resources use. A broad network of organizations and institutions is working along all the lines of environmental protection and the efficient use of natural resources. An Uzbekistan Communist Party Central Committee resolution created a special republic council to coordinate the activity of ministries and departments in this area. The evaluation of national economic branch activity will henceforth be directly dependent on how planned environmental protection assignments are carried out.

This five-year plan, the republic will spend 376 million rubles on environmental protection measures. That is a lot of money, but it will doubtless be invested in a useful, necessary and profitable cause. Nature is an honest partner and will certainly repay a hundredfold our concern for it.

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LITHUANIAN MINISTER ON ENVIRONMENTAL PROTECTION AWARENESS

Vilnius SOVETSKAYA LITVA in Russian 17 Apr 83 p 4

[Article by V. Lukashevishyus, chairman of the Lithuanian Environmental Protection Society and Lithuanian SSR Minister of Forestry and Timber Industry: "To Heighten Ecological Awareness"]

[Text] Ecological awareness ["culture"] is a complex phenomenon consisting of many components. Its basis is the developed social and civic consciousness of people. Today, we are already able to speak of certain shifts in social and individual awareness resulting from the ecological situation. The stereotypes and standards of man's interaction with nature which had taken shape in the past and our understanding of the values of our interaction with it have been constantly changing.

However, ecological views and principles have not yet become an inseparable part of our world view; they have not, for many people, been transformed into firm convictions and a clear moral-psychological position. This is why there are still quite a few complex, "painful" problems in our interrelationships with nature whose resolution is greatly agitating the public. Instances in which individual short-sighted leaders of enterprises, construction organizations and farms are still storing and using fertilizers, chemicals, production wastes and lubricants poorly, polluting water supplies and the air, are still common occurences. There are still quite a few cases in which timber is cut along the banks of water reservoirs and on the slopes of hills and ravines for immediate considerations or some economic necessity, without proper concern for the purity and integrity of forests or the thrifty and intelligent use of other natural riches. And all this often is transformed into major losses to society and the state, not just materially, but morally as well. In fact, the damage we cause nature today can be reflected in the lives of future generations.

Take our forest wealth. At the start of this year, 1,952,000 ha in our republic was forest, a considerably lower percentage that in Belorussia, Estonia and Latvia. And that is foremost a legacy of barbaric management in bourgeois Lithuania, a consequence of massive timber cutting during the Hitlerite occupation. The situation is now being corrected: the percentage of forest land is being increased and the wood variety structure is being improved. However, we continue to lack sufficient timber and lumber. And we have by no means always learned to manage timber thriftily. Dried-up timber, windfall and cleaned timber are not always

collected and used as intended in many places. Timber is discarded, rots or becomes diseased. Quite a few good, healthy trees are still cut for laying roads, electric power and communications lines and gas mains.

The status of young trees in several rayons, especially pines, oak and ash, and the damage being caused them by hoofed animals, are causing concern. All these are important problems, not only for foresters, but also for environmental protection organizations and workers in agriculture. There would also seem to be food for thought here for our managers, for designers of various types of communications, for huntsmen, for forest managers, and for the public at large. And it is expecially important that all industrial and agricultural workers strictly adhere to the demands and norms of the Environmental Protection Law and Timber Code while carrying out their economic and social development plans, that they do everything they can to protect the environment.

We must work more persistently in the area of propaganda and shaping ecological awareness among the masses. This work must be led by the party organizations and must follow a chain of preschool institution, family, school, labor collective and place of residence. We already are experienced in this work. We need only use that experience skillfully.

In recent years, the special secondary academic institutions, vocational-technical schools and VUZ's have been paying quite a bit of attention to ecological education. In some of them, students take special environmental protection courses and these questions are dealt with in lectures on special disciplines. A number of VUZ's have done a certain amount of work to develop continuous ecology training programs for all specialties. This is true of the Kaunas Polytechnical Institute imeni Antanas Snechkus, Vilnius University imeni V. Kapsukas, the Lithuanian Veterinary Academy and Vilnius Construction Engineering Institute. The natural sciences faculty at Vilnius University has displayed good initiative by beginning to train public environmental protection organizers.

Ecological education work in the vocational-technical schools is more active Quite a lot has also been done in the general educational schools. Each city and rayon has schools with offices equipped for environmental protection, with collected materials all teachers can use as necessary for their lessons. There are 217 school forest areas. The ministries of education and forestry and timber industry have outlined steps to improve the operation of school forest areas.

The Environmental Protection Society, one of the largest mass organizations in the republic, is doing much to propagandize ecological awareness now. It unites upwards of 3,700 primary organizations with 320,000 members. Much attention is paid to the activity of society members in the cities of Vilnius, Kaunas, Shyaulay, Klaypeda, Panevezhis and Palanga and in Ukmergskiy, Kaunasskiy, Kayshyadorskiy, Shilutskiy, Yurbarkskiy, Shakyayskiy and Moletskiy rayons.

Society division reports were made and elections held recently in the cities and rayons. It is now very important that the councils, presidiums and environmental protection methods commissions formed using society members work precisely and effectively. I should like the party gorkoms and raykoms and the local soviet ispolkoms to regularly hear reports by Environmental Protection Society primary organizations at their own meetings and at sessions of the Soviets of People's

Deputies, for more help to be given them in their practical activity, in propagandizing ecological awareness, in monitoring implementation of the Environmental Protection Law and the Timber Code.

We think society primary organizations must be created at every enterprise and construction site, on every farm, and in each organization serving rural areas. The council presidium of the republic Environmental Protection Society considers it appropriate that each society primary organization sponsor and care in exemplary fashion for an appropriate natural site - forest, park, seedling plot - and assume supervision of particular engineering facilities, motor transport enterprise equipment, and so on, where water, air and forest quality depend in large measure on how they are maintained. In this regard, I should like to note that the easiest thing is to punish people for breaking environmental protection laws, but the task of the society's primary organizations is to achieve, through propaganda and explanatory work, an awareness of nature and the thrifty use of its resources.

Educating people in ecological awareness means to inculcate in all national economic specialists and all workers a solicitous attitude towards the use of our natural riches and the environment surrounding us, to achieve a situation in which each Soviet person, no matter where he works, has thoroughly and solidly mastered ecological concepts, no easy task. This is something for the primary organizations of the Environmental Protection Society, scientific and academic institutions, production collectives, and Komsomol and party organizations to think about and apply themselves to.

It is our constitutional and civic duty to protect and augment natural wealth. Each of us, be he an environmental protection or public health agency worker, engineer, agronomist, teacher, economist, planner or construction worker, is obligated, while doing his job honestly, to constantly remember and carry out his duty to nature, to protect it.

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NEWSPAPER GETS LETTERS ON POLLUTION OF DON RIVER, TRIBUTARIES

Moscow SOVETSKAYA ROSSIYA in Russian 20 May 83 p 3

[Correspondence and commentary thereon: "The Don Should Be Clean"]

[Text] Even the biggest river has its beginning with springs and streamlets. And the purity and depth of this river depends greatly upon how many of these there are and on what kind of water flows into them. The quiet Don also begins at a scarcely perceptible spring in the Children's Park in the city of Novomoskovsk, but it is solicitously pampered by the hands of the townspeople. Would that all sources that feed it be treated this way! How much more mighty, beautiful and spacious the Don would become!

Last summer a brigade of SOVETSKAYA ROSSIYA journalists went along many of its tributaries--from the Nepryadva to the Severskiy Donets. They saw the clear reaches of the Savala, the sparkling shoals of the Bystraya Sosna, the dense deposits of haystacks on the reserved floodplains. But they also saw many sad pictures--bare, eroded shores, silting channels that creep, and ribbons of effluent that crawl into the river. Why does this happen, who allows it, and how will the river recover its health? The journalists told about all this in their feature articles, "The Quiet Aches of the Don" and "Living Springs."

The editorial board has received a multitude of readers' letters. Prominent scientists, national-economy specialists and managers of social organizations have responded to their publication. Authoritative organs of the Russian Federation have had their say. The executive committees of a number of oblast soviets of people's deputies have adopted special decisions. Important documents have already been reinforced by specific deeds.

The information we publish today is the story of the results of the work that has been done since the articles appeared in the newspaper.

From Official Answers

The information published in the newspaper SOVETSKAYA ROSSIYA about the pollution of the Don's tributaries and the problems of keeping its basin healthy has stimulated the public's interest. The small rivers and watercourses of the Don and Severskiy Donets basins number 13,000. In recent decades many of them have shoaled up, have lost channel capacity and have become muddied.

An interrepublic committee recommended that the presidium of the oblast soviets of the All-Russian Society for Nature Conservation develop an integrated program of nature-conservation measures for purposes of radically improving the "stream-flow regime" of the small rivers and their basins. We are paying special attention to the allocation of land for reservoirs and shore zones, the imposition of proper order on them, the planting of trees along the shore, and the complete cessation of the discharge of unpurified effluent into streams. The recommendations worked out have been submitted for the review of local soviet organs.

Definite work has been done already. In Rostov Oblast, for example, 19.8 million rubles were spent in 1982 for water-storage construction. Purification structures of 11,000 cubic meters per day capacity were introduced at Taganrog's Termoplast plant. Protective forest in the amount of 222 hectares was planted along the shores of small rivers.

At the same time, a number of operations that were conducted on small rivers of the Don basin did not have adequately substantiated scientific recommendations. This leads to negative results--depletion and sometimes even to the full loss of life of small rivers.

It is important to reduce all the questions raised down to a single integrated program of conservation and rational use of the water resources of small rivers of the River Don's basin. Scientific, design and production organizations of RSFSR and UkSSR oblasts that lie within the Don's basin should be involved in developing it, in our view.

--I. Bondarenko, First Secretary
Rostov Oblast CPSU Committee

After examining the feature articles, "The Quiet Aches of the Don," and "Living Springs," the oblast soviet ispolkom acknowledged that the criticism expressed against enterprises and farms of Tambov Oblast was correct. A check established that 63 enterprises continue to pollute the water basin with inadequately purified and unpurified effluents. Interfarm enterprises for feeding cattle are doing so to an especially great extent. Modern cascade-type manure pits are being built extremely slowly.

The ispolkom required the Michurinsk city ispolkom to speed up the construction of municipal purification structures so that their introduction into operation in 1984 will be assured. The Tambov Branch of the TsChernozemprozem [Central Chernozem Area State Institute for the Design of Land Reclamation Facilities] was instructed in the first half of 1983 to make up

schemes for the establishment of water conservation zones and shore belts, particularly on rivers that fall into the Don: the Vorona, the Bityug and Savala.

The oblast's administration for Land Reclamation and Water Resources was charged with developing working drawings for the conservation of rivers that flow into the Don.

From a decision of the Ispolkom of the
Tambov Oblast Soviet of People's Deputies

The ispolkom noted in its decision that the oblast made up a scheme for nature conservation measures and that the planting of trees and shrubbery on shores, floodplains, ravines and gullies is under way. However, it must be recognized that the nature conservation work as a whole has not been satisfactory.

The ispolkom has required the Production Administration for Land Reclamation and Water Resources and the Administration of Agriculture to take additional measures to intensify the protection of rivers from pollution, obstruction and depletion. It required them, and also Voronezhplodovoshch [Voronezh Fruit and Vegetable Production Association], jointly with TsChOGiprovodkhoz [Central Chernozem Area State Institute for the Design of Water Resources Facilities], TsChOGiprozem, the Soyuzgiproleskhoz [All-Union State Institute for Forestry Design and Surveying] branch, and the oblast council of the Nature Conservation Society to insure the development this year of design and technical documentation for water-protection zones and shore belts of small streams.

From a decision of the Ispolkom of the
Voronezh Oblast Soviets of Workers' Deputies

The public and soviet and economic organs of Lipetsk Oblast as a whole support the position of the newspaper SOVETSKAYA ROSSIYA that was expressed in articles about protecting small rivers in the Don's basin. Questions were raised that are lively and urgent and worry the populace of all the oblasts along the Don.

The articles, "The Quiet Aches of the Don" and "Living Springs," have lent still greater activeness to the struggle to carry out measures contemplated by a joint decision of the CPSU oblast committee and the ispolkom of the oblast's soviet of workers' deputies that was adopted 3 years ago.

Last year trees were planted along the shores of rivers and in their basins, ponds and the simplest of hydraulic structures were built, and work on strengthening shore and gully landslips was continued. Komsomol members and youth of the oblast did large-scale free-Saturday work on the upkeep of tree plantings and on finding and improving springs. The oblast council of the Nature Conservation Society promoted competition in their collectives under the motto, "For a thrifty attitude toward nature." Its activists took part in surprise inspections that monitored the observance of nature-conservation legislation.

Work on the purity of rivers and water bodies was intensified. During the year new purification structures with a throughput of 15,300 cubic meters per hour were introduced, and systems for recycling water supplies with a capacity of 95,000 cubic meters per day were introduced at enterprises that are located close to the rivers Don, Voronezh, Matyra, Stanovaya Ryasa and Bystraya Sosna. The discharge of polluted effluents at the Svobodnyy Sokol Plant, the Studenoye Mining Administration plant medical-equipment plants, the Gidroprivod plant and the tractor hydraulic-unit plant of the city of Yelets has ceased completely. The Lebedyan Sugar Plant is working under closed-cycle production. As a result, the oxygen state in all the oblast's rivers stayed within the norms throughout all of 1982.

At the same time, Meliovodstroy [Trust for the Construction of Land-Reclamation and Water-Resources Facilities] did not fulfill its commitments to build large reservoirs. The oblast ispolkom strictly warned the guilty workers about this. The managers of Promstroy [Industrial Construction Trust] and Lipetskmetallurgstroy [Lipetsk Trust for the Construction of Metallurgical Facilities] were also warned about postponement of tasks for the construction of purification structures, ponds and dams.

The ispolkom of the oblast soviet of workers' deputies took under special monitoring progress in the preparation of integrated schemes for protecting small rivers against depletion and pollution and the preparation of the design and technical papers.

From a letter of the Deputy Chairman of the Ispolkom of the Lipetsk Oblast Soviets of Workers' Deputies F. Sukhanov

Commentary on the Readers' Mail

Letters....Letters....Letters....The editorial board acknowledges that it had not expected to receive so many. A unique map of the basins of the Don and of other rivers could be made up from the return addresses on the envelopes. People of various ages and vocations responded. One thought united them: the state of health of both small and large rivers is in man's hands, and joint work must be done quickly to attend to it. For many of the rivers not so long ago were filled with water and were clean. The image of a favorite stream, the readers write, still remains before their eyes today, like an inviting picture. "I spent my youth in the village of Korshev on the beautiful Bityug," V. Mitrofan writes us from Voronezh Oblast. "I remember well the time when the deep, wide Bityug peacefully pushed its waves toward the Don. Its waters lapped almost below the windows of the peasants' huts. Right now it is knee-deep to a hen in some places. And all this is occurring before the eyes of my contemporaries, our generation...."

"Rivers do not forgive even slight carelessness by man," K. Kiselev, a former resident of the city of Yelets, supports V. Mitrofan's thought. "I recall in the 1950's, the ore administration began to wash crushed rock on the shores of the Sosna and to release muddy water into the river. And the river channel began to swell, to silt up."

Indeed, does it seem to be a great harm to let one's cucumber or cabbage beds drain toward the water itself, to remove turf from the floodplain, to make a furrow from the top to the bottom along an incline. But what does all this result in? The hydrologists quote us this disturbing figure: 15 million tons of solid discharge each year go downstream with the water to where the River Don intersects the border of Voronezh and Rostov oblasts. Speaking more simply, 1 million tons of fertile soil go down to the sea, lost irretrievably.

Not by far have all the residents of shore communities remained indifferent witnesses to thespoiling of the river. Many have tried to protest and have suggested ways to save nature. But their voices seldom have broken the barrier of the economic interests of the very moment. A. Kornilov, a resident of Saratov Oblast, worrying about the Khoper River and its tributaries, writes about this with pain in his heart.

They tell the people: water does not flow under a recumbent rock. Yes, it does not flow. We became convinced of this during the journey along tributaries of the Don, which we wrote about in the feature articles. But we have seen and are seeing something else. At Usman, at that same small Lipetsk village, just like at Arkadak, the Usmanka stream, which flows close to the town limits, also proved to be at the verge of death. But, at the insistence of the public and with its participation, the river was cleared, its channel deepened and its beach washed. And now the Usman has come to life near the town and it has become a favorite place for the people's recreation.

And how nice for small rivers the campaign promises to be in which the youth of Voronezh, Lipetsk and Tambov oblasts participated. On one July day last year alone, Lipetsk girls and boys improved 167 springs. On a "Red Saturday" this year youthful Tambovian hands planted about 140 hectares of forest along the river's shores. And Komsomol members and youth of Voronezh Oblast planted trees this spring, during a 10-day period of shockwork, on 2,000 hectares of river shore and floodplain and gullies and ravines.

The fact that the attention being paid even by economic organs to small rivers is increasingly appreciably is gratifying. This is evident also in the answers of the oblast ispolkoms that are printed on this page.

However, both the large and the small rivers of the Don basin are increasingly receiving ruinous salvos of unpurified effluent. And so the concern of the public committee for the Don, which constantly monitors the solution of this problem, is justified. A meeting of its presidium, which was held a month ago, was specially dedicated to progress in the construction of purification structures and systems for recycling the water supply at Minchermet [Ministry of Ferrous Metallurgy] and USSR Minkhimprom [Ministry of Chemical Industry] enterprises that are located in the Don and Severskiy Donets basins.

The committee noted that the water-resources situation at a number of projects remains tense. Goals for building purification structures on the Sula and water-supply recycling systems at the Taganrog metallurgical plants of Rostov Oblast have been upset. Measures were not taken at the Slavyansk

Khimprom [Chemical Production Association] (Donetsk Oblast) and the Lisichansk Soda Plant (Voroshilovgrad Oblast). Complaints presented in this connection by those invited to the committee's session against Chief of the Nature Conservation Section of USSR Minchermet I. Kalenskiy and Chief of the Administration for Work Safety, Industrial Sanitation and Nature Conservation of USSR Minkhimprom M. Levchenko for poor organization and monitoring of the nature-conservation work at enterprises of their industries were justified.

And the responsible workers of managerial organs of Sel'khozkhimiya deserve a similar rebuke. Until now they have been watching unconcernedly while millions of tons of liquid fertilizer accumulated at livestock complexes. Many settling tanks in the Don basin have been filled to the brim with so-called litter-free barnyard manure. During snow-melt flooding and heavy rains the manure spills out along gullies and ravines, polluting rivers and water bodies. Into the bargain, thousands of tons of mineral fertilizers that are carried along the surface or through the air go downstream from sloping neighboring fields. And it is not for no reason, for example, that the amount of nitrogen components in the water, according to the specialists' data, has reached the maximum permissible norm in some places. Therefore, it is necessary to inquire more strictly about violations of land and water legislation by supervisors of farms and those who should help them to conserve nature.

The struggle for the health of the Don and its tributaries is not a one-time matter, and it is far from simple. Here, as is said, the road is long and crooked. In transforming nature, one must think earnestly about ecological and economic consequences. We agree with the opinion of reader A. Potapenko, who sent a letter to the editor, that our feature article did not cover this aspect of the problem completely adequately.

"Income from land and water areas that have been transformed must be constantly compared with the advantage lost, that is, with what could have been obtained without the transformations. Meanwhile, the designers, not stinting with promises about the advantages from implementing their designs, then completely forget about the **need** to compare what has been acquired with what has been lost." And the same Comrade Potapenko confirms this thought here with convincing examples about the economic consequences of thoughtless transformations of the Don's floodplain.

Many useful things were said at a "roundtable" meeting by representatives of three oblasts located in the Don basin--Voronezh, Lipetsk and Tambov oblasts. Two years ago Small-River Sections were established within the Land-Reclamation and Water-Resources Administrations, they said. Their mission was to develop, with the clients, technical and design documentation for water-conservation zones and riverbed belts. But their work is going slowly--they have been providing two or three rayons per year with designs. The reason: inadequate funds. Is there a way out of this situation? There is, answer the sections' managers. The oblasts must each year release large sums for antierosion work, and each year 700,000-800,000 rubles are not assimilated. This is 10-fold to 15-fold what is being allocated for the design of water-conservation zones. Give part of the "frozen" funds to water-conservation zones, whose mission is vitally related to antierosion, and the problem of design will be quickly solved.

"Incidentally," states chief of the Small-Rivers Section of the Voronezh administration N. Zastel' with bitterness, "designs already prepared are gathering dust on the shelves: there is no contractor."

And he is right in principle: the ispolkoms of the oblasts' soviets are obligated to specify the contractors. Their slowness in resolving this problem has no justification of any kind. And the Main Administration for Small Rivers that was established within RSFSR Minvodkhoz [Ministry of Land Reclamation and Water Resources] does not inspire its oblast colleagues very much with its example. In the summer of last year, at a regional conference in Voronezh, its supervisors promised to work out a standard design for a water-storage column. The task is simple. Nevertheless, almost a year was needed to keep the promise.

But defining boundaries and writing stencils about the rules for conduct in the zones are not ends in themselves. The main thing is to remove everything that is not supposed to be on the lands of such zones--summer grazing camps for cattle, fertilizer warehouses, petroleum-product storage and so on. This work is still moving slowly. The managers of kolkhozes and sovkhozes, not perceiving exactingness on the part of the local soviets, are not hurrying to remove the facilities that cause damage to the rivers and clearly lie within the limits of water-conservation zones.

The letters that are arriving in the editorial offices say that much thought was given in speeches at the meeting to what kind of dams there should be on small rivers. Everyone was unanimous in the opinion that not just earthen dams, which do not hold back the pressure of spring high water and silt up and spoil the river, are needed. A. Minin, chief of the Tambov Oblast Administration for Land Reclamation and Water Resources, considers it wise to build small overflow dams made of metal sheet-piling. But the trouble is that such piling is not easy to find. It would be good if the Ministry of Construction Materials Industry would undertake its manufacture. Also deserving attention is the fact that the Lipetsk Section of TsChOGiprovodkhoz has developed a standard design for a retaining wall that is made of reinforced-concrete structure. The structure is already prepared for the first dam, which will be placed on the Kuzminka stream. Meliovodstroy [Land Reclamation and Water Resources Trust] made them. A nice start. It is important to see to it that reinforced-concrete products plants everywhere have on their products lists structure for hydraulic-engineering structures for small rivers.

The letter writers who responded to our article consider that the organizational forms for the protection and the rational use of the Don's tributaries are not sufficiently productive. As is true, incidentally, for all small rivers. The main thought of their suggestions was that small rivers, like our forests, should have their custodians. Construction on their shores and the arrangement of bathers' dressing rooms and roads, dams and economic activity on their slopes and in their floodplains should be planned, authorized and monitored by one authority which is responsible for the condition of small rivers.

Comments....Advice....Recommendations....There were a multitude of them. And this was good. This is one thing to inspire assurance that the Don will become clean and beautiful and will carry plenty of water--become really healthy.

--V. Kolobov and A. Pyatunin
(Our special correspondents)

From the Editorial Board:

The first results of the public's concern about the Don's health is encouraging. They indicate what important help big rivers can get if something is done about the main thing--their tributaries. In considering this, SOVETSKAYA ROSSIYA plans a similar expedition for June this year, along the Oka's tributaries, which, as is well known, flow through seven oblasts. A test of a thrifty attitude toward the streams that feed the Oka, their current status and the difficulties and problems that await solution will be of concern to the paper.

We appeal to readers and to all nature-conservation enthusiasts to send us advanced experience and cases of a foolish approach to the land's deep arteries and to send in their suggestions on how to return them in better fashion and more quickly to their former strength and beauty.

We ask that the letters be sent to SOVETSKAYA ROSSIYA's editorial board with the notation, "Small rivers need a big life."

11409
CSO: 5000/136

FOOD INDUSTRIES URGED TO IMPROVE ENVIRONMENTAL PROTECTION WORK

Moscow SEL'SKAYA ZHIZN' in Russian 28 May 83 p 3

/Unsigned Article: "Protect Nature"/

/Text/ A regular session of the Committee on Environmental Protection and Rational Utilization of Natural Resources of the USSR Council of Ministers' Presidium was held on May 27.

Consideration was given to the question of fulfillment by the USSR Ministry of the Food Industry and the USSR Meat and Dairy Industry of resolutions by the CPSU Central Committee and the USSR Council of Ministers, as well as previously adopted decisions by the committee with reference to the reduction of harmful emission into the environment and the accelerated introduction of low-waste manufacturing processes at production units which are part of enterprises under their jurisdiction.

At the session it was noted that the USSR Ministry of the Food Industry and the USSR Ministry of the Meat and Dairy Industry are still inadequately concerned with questions of environmental protection and are not providing for the fulfillment of plan targets in this area. The food and meat-dairy industries have been slow to introduce progressive technologies, which make it possible to reduce pollution of the air, water and soil and to uillize more fully both raw materials and production wastes for the production of additional output.

The committee made it mandatory for officials of the ministries to take measures to strengthen environmental protection work in these sectors and to ensure fulfillment of the plan targets on these questions which were established for the 11th Five-Year Plan.

Also discussed at the session was the question of how to improve the utilization of domestic inventions in the area of environmental protection and the rational utilization of natural resources. In the last three years more than 5,000 inventions related to environmental protection have been registered in our country, and this has great significance for the acceleration of scientific and technical progress.

However, the State Committee on Inventions and Discoveries is still weak in its efforts to direct the work of inventors to the resolution of the basic environmental protection problems. Many ministries are inadequately concerned with introducing available inventions on this subject matter into production.

The decision adopted by the committee specifies measures to increase the role of inventions in environmental protection work, to increase the participations of VOIR (All-Union Society of Inventors and Efficiency Experts) organizations in this work and to speed up the production application of inventions which are of technical-economic benefit.

8543
CSO: 5000/128

TECHNOLOGY OF PURIFYING CONTAMINATED WATER IN ARMENIA OUTLINED

Yerevan KOMMUNIST in Russian 5 Apr 83 p 3

[Article, published under the heading "We Must Answer to Nature," by KOMMUNIST correspondent N. Mesropyan: "And the Waters of the Debed Shall Be Clean: First Stage of a Multiyear Environmental Protection Program Completed at the Alaverdi Mining and Metallurgical Combine"]

[Text] On a recent visit to Alaverdi, comparing what I saw with memories of 3 years ago, I recalled a passage from V. Soloukhin's book entitled "Kameshki na ladoni" [Pebbles on the Hand]. It reads as follows: "One would be hard put to imagine astronauts journeying through space and deliberately spoiling their spacecraft, deliberately wrecking their complex and sophisticated life support system, designed for an extended mission. The Earth is a spaceship, and all of us are astronauts flying a very long journey around the sun, and together with the sun through the infinite universe. But gradually, sequentially, with a truly astounding irresponsibility, we are disabling our life-support system, poisoning the rivers, cutting down the forests, and polluting the atmosphere."

A harsh statement, but true. Three years ago, observing the stream of black liquid flowing from the shops of the Alaverdi Mining and Metallurgical Combine into the waters of the famed Debed, celebrated by Tumanyan, one could easily reach such somber conclusions. A long-time resident of that town spoke with sorrow about his childhood, about how they had fished in the river and how many fish there had been. "But today," he concluded his story, "you can't even hear frogs croaking along the banks of our Debed."

I say again, this was three years ago. But what about now?

"Dry-Cleaning" Industrial Wastewater

This is what the people at the combine, half in jest and half in seriousness, but with a note of familiar affection, call one of the components of this gigantic industrial facility -- the wastewater treatment shop. This is the way one treats a long-awaited child: one is both proud of and constantly admiring that child. They waited a long time for this shop to come on-line. It seemed that everybody was well aware of the fact that they should not be polluting the river, that protection of the watershed was a priority task, but nevertheless construction dragged on for almost 9 years.

The wastewater treatment facility went into operation on 13 January 1981.

"The number 13 has not turned out unlucky for us," smiled shop superintendent Vladimir Bakhshinyan. "From the very first day all the equipment has been operating normally; there have been no instances of equipment breakdown or system malfunction. We are sure that this will continue to be the case."

It is this confidence which is a guarantee of the purity of the waters of the Debed, and not only of this river alone, for the Debed flows into the Caspian basin. Thus they have laid here the foundations for purity of more extensive expanses of water.

The combine uses a great deal of water, and primarily in sulfuric acid production. A number of industrial processes are inconceivable without water. Water is run through the wet-type electrostatic precipitators, the spray traps and, strange as it may sound, even gases. It is not surprising that a single liter of wastewater contains 118.8 grams of coarsely dispersed adulterants -- insoluble particles of copper, arsenic, iron, lead, and zinc. It also contains a great many dissolved substances, including sulfide gas. The shop not only filters out and neutralizes them, but also gives a second life to the water, if one may use this expression. Purified and clarified, it is an eternal toiler, sent again and again through those same electrostatic precipitators and various traps; it becomes contaminated, returns to the treatment facility, casts off its unwanted burden, is given the chance to rest a bit, and sets out once again....

The treatment process is not very complicated: contaminated water enters contact reactors, into which milk of lime is fed at the same time. The first metamorphosis takes place here, in the reactor: the solution changes from an acid to an alkaline medium. Every last droplet of the water, which is now clean, is pumped out, and everything remaining behind -- a gray, dirty sludge consisting of various elements, is hauled off into the mountains and disposed of in special pits. To gain an idea of what an enormous volume of work is involved, suffice it to say that every day the shop hauls off more than 70 tons of waste.

This efficient, closed cycle is operated by a small team of engineers and workers, a workforce which already contains distinguished experts, leading workers, and socialist competition winners.

Lab technician Marine Niyazyan, filtration department equipment operator Sarkis Kushukyan, and pump operator Ashot Pogosyan do their job with a feeling of responsibility.

"All of us were born and raised on the banks of the Debed," I was told by wastewater treatment equipment operator Oganes Melikyan. "To conserve water and preserve its purity is for us not only a regular job but also a matter of honor, a feeling of duty which each and every individual feels toward his homeland, toward that corner of the earth which is more precious than all others."

The workers in this section are carrying out their duty well: DISCHARGE OF CONTAMINATED EFFLUENT INTO THE DEBED HAS NOW BEEN TOTALLY ELIMINATED. THAT DAY WHEN FISH REAPPEAR IN THE RIVER IS NOT FAR OFF [in boldface].

Come to Alaverdi

I am sure that many will smile distrustfully upon reading the above heading, particularly those who have not visited Alaverdi in recent years. We therefore invite disbelievers to come to this town and take a look at how clean the air is.

It is no secret that the air around Alaverdi was subjected to rather intensive pollution over the course of a great many years. The large quantity of gases ejected into the atmosphere created a rather unpleasant environment: gardens and forests were dying. Today this is all a thing of the past.

The director of the mining and metallurgical combine, Norik Sarkisyan, enthusiastically told of work which had been done toward this end. First of all, thanks to the adoption of a new process, content of particulates in the gases released from the fluidized bed of metal has been reduced by a factor of 4-5, operation of the dry electrostatic precipitators has been properly adjusted, and the gas lines no longer become clogged. As a result, larger quantities of sulfide gases are now obtained in the sulfuric acid production facility, and sulfur losses have been sharply reduced in the washing department. Secondly, a gas accumulator and gas cooler operating on a new principle, as well as a large quantity of modern equipment have been installed in the converter department. Thirdly, and most important, installation has been completed on four -- fundamentally differing from the previous equipment -- BVK-3.6 dry electrostatic precipitators, which have been doing an excellent job ever since installation. Startup of this equipment completely solved the problem of treatment and subsequent utilization of low-concentration gases.

Turning Waste to Profit

Another truck loaded with dark grey sludge, waste material from the filtration department, headed out from the wastewater treatment shop to the concrete-lined storage pit, totally isolated from the soil. Gazing at it, one involuntarily recalls a statement made by a famous chemist: "Dirt is chemical substances out of their proper place." Indeed, the waste, the "dirt" which people are presently trying to get as far away as possible, is a mixture of such valuable substances as copper, iron, lead, zinc, and arsenic.

Take arsenic: it is being profitably utilized in various sectors of the economy, in medicine, the aircraft industry, and in the manufacture of crystal. Copper, or zinc, let us say, is certainly valuable. And yet all this wealth, so-called waste, obtained due to the adoption of environmental protection measures, is currently being discarded for the simple reason that there is no technology available for their extraction and subsequent utilization.

Not at the present time, but there will be. This subject is discussed at the combine not only with hope but with confidence as well. Research work is nearing completion at the Armniprotsvetmet Institute, and soon nothing at all will be wasted, as they say, in the treatment shop.

But what do they plan to do with the dry waste of valuable substances which are also "not in their proper place"? The quantity of these substances has increased

immeasurably with the installation of dry electrostatic precipitators. What is to be done with them? Should they be thrown out?

In replying to this question, combine director Sarkisyan showed us a new production building which is almost ready to go into operation. Tens of tons of converter particulates will be processed daily at this experimental commercial-size facility. A great many valuable chemical substances, including metal-containing collective cementation, zinc oxide, calcium arsenate and other compounds can be obtained from raw waste material. A new section, for the combined processing of raw materials and copper smelting waste recovery, was designed and built on the basis of joint scientific efforts on the part of specialists at the State University, the Armniprotsvetmet Institute, and the combine. We should note that in the new shop, which will come on-line in a few months, all processes will be automatic, in a totally-sealed environment, and without harmful emissions into the air or water.

Environmental protection efforts constitute an immense program, demanding the investment of considerable funds and running over a period of many years. The first stage of this program has been successfully achieved at the Alaverdi Mining and Metallurgical Combine. The second stage is presently in the process of execution: a modern, no-waste production operation is being established, with all industrial processes closed-cycle. And when this stage is completed it will be possible to state with complete confidence that no danger threatens the pure air of the Lori and the blue waters of the Debed.

3024
CSO: 5000/151

INDUSTRIAL AIR POLLUTION CONTINUES IN ALMA-ATA

Moscow IZVESTIYA in Russian 12 Jun 83 p 2

[Article by B. Meshcheryakov, first deputy chairman, Ispolkom, Alma-Ata City Soviet of People's Deputies: "How Does the City Breathe?"]

[Text] Just a year ago the capital of Kazakhstan became a city with 1 million inhabitants. Alma-Ata has long deservedly been called a garden city. There are more than 76 square meters of greenery per inhabitant. Up until late fall, colorful flowers decorate parks, squares and prospects. More than 1 million roses are planted here annually.

The people of Alma-Ata love their city and try to keep it clean. As is known, however, ecological problems will not solve themselves, they require efforts and constant attention.

I will give an example. Alma-Ata is located within a horseshoe shaped bend in the Zailiyskiy Alatau. These mountains reliably protect it from the south and east. This picturesque range prevents air flow from completely ventilating the city. Frequently during calm weather from Kok-Tyube mountain, which rises above Alma-Ata, the results of living so close to such gigantic peaks can be seen. Until recently (and sometimes even now), a dense blanket of smog hangs above the city, and through it the streets appear hazy in the distance.

From whence does this smoke above the city come? It is caused by numerous boilers and the exhaust of motor vehicles.

Several years ago the Central Committee of the Communist Party and the republic's government outlined a complex of measures to clean up the atmosphere. Control over their implementation has become a matter of primary importance to the city soviet.

A permanent commission for protecting the environment is actively operating at the city soviet. It is now headed by a deputy, professor of biology Z. Kozhebekov. It has become a rule at commission meetings to examine plans for the economic and social-cultural development of Alma-Ata with respect to the natural potentials of the city and its environment, and, of course, with consideration given to the condition of the atmosphere. The

commission has a special section which directly watches over measures ensuring the purity of the city's atmosphere. This section consists primarily of workers from industrial enterprises and drivers from public transportation.

Our most troublesome source of air pollution is motor vehicles. They "supply" the atmosphere with up to four-fifths of the harmful substances found in it. In order to reduce these emissions to some extent, a system of automatic traffic control has been introduced in Alma-Ata. It has eliminated jams at intersections, and on one of the main roads--Ulitsa Furmanova--a "green wave" is in operation. This is a group of traffic lights through which vehicles can pass without a single stop.

In addition GAI [City motor vehicle inspectorate] workers are conducting regular inspections of vehicles to see that they comply with norms for exhaust emission toxicity. A special technical diagnostic station has been opened to do this. One should add that in Alma-Ata more than 2,000 vehicles are operating on natural gas, which is less costly and harmful than gasoline.

At the city soviet's insistence, more than 50 boilers have been shut off, and some have been converted to gas. In their place tens of kilometers of heat supply pipes and internal gas lines have been installed.

One can state without exaggeration that much has been done so that the air above Alma-Ata will be clean. It is certain, however, that far from all has yet been done. Air samples still show the presence of dust, sulfurous gases, oxides of carbon, and nitrogen dioxide. Occasionally, a notorious smog hangs above the city. According to data from the Kazakh Republic Administration for Hydrometeorology and Environmental Control on some days certain places have dust and carbon oxide contents which exceed permissible norms. What is the reason for this?

Industrial enterprises are still important sources of atmospheric pollution. However, the largest plants and factories, which have historically been a feature of the city, have not yet been moved outside of its limits. Here is the entire problem: Are they all equipped with the necessary cleaning installations and filters? Alas, the picture is not pleasant. The situation is especially unfavorable at enterprises subordinate to union ministries. Thus, gorsoviet deputies and members for the section for the protection of the air basin, T. Makulbekov, N. Deulin, and others have, by careful inspections, established that at the largest enterprise in the city--the Alma-Ata Heavy Machine Building Plant, almost one-third of the pollution sources are operating without equipment for gas and dust collection, at the Porshen' Plant more than a fourth and at the Machine Tool Building Plant imeni 20 Years of October, about a half.

The city soviet ispolkom has given specialists the task of intensifying scientific-research and design work on the creation of new technological processes and methods for removing harmful substances from various types of fuel. We are waiting for research results from our scientists.

Cleaning equipment which has already been installed is often poorly utilized. Thus, for example, at the plant for household chemicals (L. Razboynikov is director), it was not in operating condition. At the Asfal'tobeton Association (G. Islamov is director) and the plant for boiler-auxiliary equipment and pipes (director G. Gubber) more than one-third of the installations are not functioning. There are also enterprises where no systems to reduce harmful emissions have been introduced.

We are dealing strictly with such comrades. Last year alone 16 managers were fined for violations involving atmospheric pollution. The guilty parties are invited to administrative commissions of ispolkoms at city and rayon soviets.

Positive experiences in the struggle for clean air, water, etc., are popularized. For example, at the Alma-Ata house building combine for several years now a service for environmental protection has been in operation. It is headed by engineer V. Pachin. It has a special brigade of fitters, gas and arc welders to repair and adjust dust collectors, ventilators, and piping. An atmospheric monitoring laboratory is also in operation, and strict control and responsibility have been organized. The emissions of harmful substances at this enterprise have recently been reduced six-fold and meet sanitary norms.

We are still concerned about boilers for city TETs and heating systems at some enterprises. A large number of them are still working on coal, and high ash coal at that. It is not yet possible to convert them to natural gas because the city's requirements for this fuel are only being one-third met. The city's transport is experiencing a need for unleaded types of gasoline.

Supplying enterprises with dust and gas collection equipment remains a difficult problem. As a rule, orders for such equipment are not met. It appears that the time has come to build a plant in Kazakhstan to manufacture such equipment and create a specialized erection-adjustment administration for its installation and repair.

Problems involving environmental protection are multifaceted and complex. Success is hindered by a narrow departmental approach. There is one sky over our heads, and we breathe the same air. In order for it to be clean and the land to bloom it is necessary for all enterprises and organizations to work together, acknowledging the coordinating role of the city soviet--the real master of its territory.

11574
CSO: 5000/147

CEDAR FOREST PROTECTION INADEQUACIES OUTLINED

Moscow SOVETSKAYA ROSSIYA in Russian 7 Jun 83 p 2

[Article by correspondents B. Prokhorov, V. Sungorkin, A. Usoltsev and A. Shchegolev from SR and by correspondent Yu. Samsonenko from LESNAYA PROMYSHLENNOST under the heading "Account of an Operation: We Check Implementation of the Resolution on Protecting and Using Valuable Timber": "Cedar Forest Being Axed"]

[Text] Quite a lot has been written about cedar. This has been a frequent topic in SOVETSKAYA ROSSIYA. But the letters to the editors show that reader interest in it continues. "I live in Khakasiya. My official duties often take me to timber management enterprises. My impression is that some managers still do not want to understand how valuable the forests they are dealing with are. And although enterprises are repeatedly fined for violating cedar cutting technology, this has yet to do much good," writes reader M. Petrov. "In the fall, thousands of city-dwellers head for the cedar forests. They take nuts out of the taiga by the sackful, thus dooming many forest inhabitants to inadequate food. In the end, this affects the 'yield' from hunting areas. It is high time forest protection strictly monitor cone-poachers," says P. Rizov in Primorskiy Kray. "Five years ago, a special USSR Council of Ministers decree was adopted on improving the comprehensive use and protection of cedar forests. Many people would probably be interested to know how it is being implemented," writes A. Shumilov from Kemerovo. We accept the suggestion and discuss today the fate of the cedar taiga from precisely this point of view.

Careless About Nature. Should cedars be cut or not? We remember the impassioned disputes about that. What would be the point of stirring that up, since [over]cutting has finally been stopped. Moreover, the age of those tracts set aside for lumberers has been increased to 40-60 years. One-fifth of all cedar stands have been transferred into so-called commercial-nut zones in which commercial lumbering is totally prohibited. In a word, during the five years since the famous government decree much has been changed for the better. But that important document was aimed at a fundamental turn-around in cedar forest management, at their comprehensive use. Is that being done today?

The main problem with the cedars is the departmental approach to their use, which was discussed with alarm by participants at the all-union scientific-practical conference convened in Tomsk nearly two years ago, and the problem remains. For a realistic idea of the state of affairs, let us familiarize ourselves with a specific situation. The Primorye is the easternmost range of this

valuable species. No matter how limited the cutting, more than two million cubic meters of cedar is being cut here each year.

"The 'Primorskles' association adamantly opposes every restriction," says the kray's chief forest warden, D. Kuvayev. "There is now a dispute over the taiga in the upper reaches of the Bolshay Ussurka, which has the last pure stands of Far Eastern cedar. We proposed allocating this small tract of 33,000 ha for a commercial nut zone. The kray ispolkom supported us, but in order to keep the chain saws out of the taiga a special resolution was needed from the RSFSR Council of Ministers. We made the proposal back in 1979, but no agreement has been reached yet. And the lumberers are already extending their roads towards the last untouched cedar stands.

Lumberers in Khabarovskiy Kray are careless about nature. Due to very gross violations of technology, cutting has repeatedly been shut down temporarily at enterprises of the "Khakasles" association. Paradoxical as it may sound, even the foresters, whose professional duty it is to save and augment the wealth of the taiga, still often give in to the lumberers in their efforts to take more of the valuable cedar faster. Here is a typical example.

Two years ago, the RSFSR Ministry of Forestry Industry approved steps to improve the timber-management and production activity of the Altay Timber Management Administration. That program was aimed at saving the cedar. Enterprises received assignments on increasing deciduous wood lumbering. For example, the Karakokshinskiy timber management enterprise was to have taken 1,700 cubic meters of deciduous species last year. By the way, there are great opportunities here for cutting deciduous trees rather than cedar: 128,000 cubic meters mature each year. Here would seem to be a chance to turn around, but the enterprise procured only 800 cubic meters of "deciduous" and met the plan basically through cedar cutting. Why? Because the consumer takes deciduous wood only for firewood; in order to sell it profitably, processing shops are needed, of which there are none. And so the cedar goes under the ax...and close-cropped as well. Indisputably, we need to cut mature and overmature cedar. So-called selective cutting is anticipated for this, a guarantee of eternal forest. But how slowly such cutting is being instituted!

That same Karakokshinskiy timber-management enterprise was to have selectively cut a tenth of the area felled last year, the Vaygolskiy lumbering combine -- an eighth, the Gorno-Altayskiy experimental lumbering combine -- 100 hectares. But they did not even cope with that assignment. Why? No roads, so equipment could not get into the taiga. The demand for roads is being barely one-third met. So clear-cutting is being done instead of thinning. Monitoring checks this fall revealed that they are already threatening maturing cedar whose cutting is categorically prohibited by the government decree.

How Much Does A Pencil Cost? How can one explain this: the Ministry of Forestry Industry stubbornly insists on its own way: cedar can be cut for three quarters of a millenium without damaging the forest. And really, what cause for alarm could there be? The size of the cedar stands is increasing each year. According to branch statistics, this is actually so. But life proves otherwise. In place of the very valuable cut cedar tracts, we often get areas in which cedar plantings are less than a fifth of the total. Were we to actually cut such timber,

there would hardly be any voices rising to its defense. But the fact is, an effort is made to take the very best, to skim the cream. Year after year, lumbering plans are increased, and the effort by lumberers to carry out higher work plans with the least expenditures is understandable in this connection. And the departmental approach is concealed by the soothing computations that there are enormous cedar taiga reserves. Where are the forestry specialists to look? One can, of course, appeal to their professional duty. However, of what use are emotional words if the activity of the forestry specialist is evaluated primarily on the basis of number of cubic meters procured?

Take another facet of the problem. Where does cedar wood go? Calculations show that the annual demand for those needs for which one can actually not do without it does not exceed 1.5 million cubic meters nationwide. But even that wood which is used for its intended purpose is not very often prized.

Probably not many know that only cedar is used in wooden pencils. Why? It is soft, straight-grained, non-resinous and easily worked. And no one, either here or abroad, has yet to find a replacement. A plastic pencil is not promising, in the opinion of many researchers, as petroleum reserves are not unlimited, while timber can be reproduced.

Only one enterprise here, the Tomsk Pencil Factory, produces the special boards slate-pencil wood is made from. For nearly half a century, Tomsk workers have been providing it to all the pencil enterprises in the country. But has much changed in the technology of its manufacture? "The percentage of usable wood has, to the contrary, decreased by 17-18 percent," says G. Chernook, chief engineer at the plant. "The raw material arriving at the factory has deteriorated sharply in quality. Attempts to improve the technology for producing pencil wood have been made repeatedly, but have not been successful. I think that is because the factory is operating without the help of science. I don't think our sciences are dealing with pencil wood problems at all."

Little needs to be added to this. The technology for producing pencil wood is truly capricious, especially the drying and layout procedures. A USSR Council of Ministers decree has obligated the Ministry of Forestry Industry to conduct research in its own scientific institutions and to propose new technology. But this has not been done. This position is founded essentially in the persistent prejudice that it is not worth spending time on the pencil wood problem if only a little of the cedar is going into pencils. In a word, we have yet another example of departmental indifference based on a consumption attitude towards natural resources. In fact, pencil production is to double just in this five-year plan....

Managing With A Comprehensive View. Experience proves that in 90 cases out of 100, cedar wood can and should be replaced, successfully, by much less valuable, faster-maturing deciduous varieties. But to do this, we need new standards for those types of output which can be made without this valuable wood. But the Ministry of Timber, Pulp and Paper, and Wood Processing Industry has heretofore not submitted its proposals regarding this to the State Standards Committee. How is this very valuable wood being used today, on the whole?

Here is the Altay procurement distribution: 170,000 cubic meters for lumber, 19,000 for crating, 9,000 for floor lath and 7,000 for rail car construction. Far Eastern cedar is used for all these things, and in addition, it is used to build pig pens, for fences and for snow roads in the taiga.... Cedar is hauled thousands of kilometers to make mine shaft bracing, railroad ties, and sometimes just for firewood. Quite a bit of timber is also perishing from loose rafting losses and is rotting piled up on docks and at railroad yards.

Let us remember that four-fifths of the nuts, 60 percent of the sable and almost the same percentage of squirrels are harvested in cedar forests. Finally, the meat of the boar, Manchurian deer and other animals and unique medicinal plants are harvested there. Lake Baykal and Teletskiy Lake need the cedar. The Ob, Yenisey and Lena are born under its crowns. The hydrological conditions of rivers feeding the largest Siberian GES's depend directly on the health of the cedar stands. It is for precisely this reason that they must be considered forests carrying out important regulating functions in nature. Has this truth become the core of economic practice? By no means completely, I should think. The reason is obvious, we feel.

As before, the interests of various branches collide at the taiga intersection. At the same time, the time has finally come for everyone concerned with the complicated fate of the cedar to unite their efforts. The time has come for a persistent, broad changeover to the creation of multibranch, multipurpose timber management enterprises including both the use of the gifts of the cedar taiga, care of it, and the necessary cutting. Experience accumulated in this country (recall the well-known lessons of Kedrograd) testifies to the fact that it is advantageous for a multipurpose enterprises to differ in all its indicators from both lumbering and commercial hunting enterprises. It ensures better preservation and reproduction of the cedar stands and the thorough use of material and labor resources. A multipurpose cedar management enterprise would doubtless help shorten the path from scientific developments regarding cedars to their practical introduction and would close, economically and organizationally, the science - production circle faster than anything else.

We are told that such enterprises have been created in recent years and are operating successfully. True, but thus far just in isolation. Life, on the other hand, convinces us that delay is impossible. We are responsible for the proper, thrifty use of cedar forests to more than just our own generation.

11052
CSO: 5000/139

FOREST SHELTER BELT DESTRUCTION CRITICIZED

Moscow PRAVDA in Russian 1 Jun 83 p 3

[Article by V. Sharipov and N. Sokolenko, senior scientific associates, Kokandskaya Forest Experimental Station: "Axe in the Tugay"]

[Text] The Syrdar'ya River is one of the main waterways of Uzbekistan and Kazakhstan. The rational use of its water resources and the protection of its channel and banks from erosion are pressing problems.

Observations by scientific associates at the Kokandskaya Forest Experimental Station show that erosion of the banks along the unforested sections of the river averages 60 centimeters annually. Tugay [scrub forest covered bottomland] growing on the river's banks and islands, holds the ground fast. During spring floods it retains a large part of the silt and protects the Karakumskaya Reservoir from siltation. In addition, tugay vegetation improves the feeding conditions of commercial fish, and shades the water surface, creating favorable temperature conditions for the development of eggs and young fish. At the same time tugay is a fine corner of nature for raising young pheasants.

However, the protection of this natural resource is falling short of the needs. Just 10-15 years ago a strip of the Kokandskiy Leskhoz forest stretched along the Syrdar'ya River.

Now sometimes, because of an incompetent solution to the problem of land development, the forest belt has been reduced, and in many places completely eliminated. The Sovkhoz imeni Lenin in Papskiy Rayon has destroyed the forest near Punganskiy Bridge. The Kolkhoz imeni K. Marks in Frunzenskiy Rayon has converted part of the tugay forest to farmland. Fields of the Sovkhoz imeni Akhunbabayev in the same rayon go right up to the river. The Ganiabad and Komsomol Sovkhozes in Uzbekistan Rayon of Fergana Oblast have uprooted and developed more than 200 hectares of tugay forest.

Unfortunately, one could give many such examples. If this continues further, then in the not too distant future the tugay forest along the Syrdar'ya will disappear.

An existing biological community is being damaged, and irretrievable harm is being done to water resources and agriculture. Rice is raised on cleared lands during the first years of their development. Nearby tugay forest perishes because of the high level of ground waters and intensive salinization.

The remaining belt of forest along the bank is heavily damaged by pests. However, they cannot be fought by chemicals, which would harm fauna and fish stocks.

Associates at the Kokandskaya Forest Experimental Station have determined that one can successfully use Trichogramma in the struggle against leaf roller moths. However, due to the destruction of the forest the number of useful insects has also declined.

In accordance with the forest law of the USSR and the Uzbek SSR the conversion of forest land to nonforest for purposes not involving forestry is permissible in forests in the first group only in exceptional cases. This is within the competence of the government. However, in Fergana and other oblasts in the Fergana Valley the managers of some farms are arbitrarily shifting the boundaries of land use. This is intolerable. Soviet and agriculture organs, in handling the problem of land transfer, should understand that protective forest cover is of major importance to the national economy. The republic society for the protection of nature and the Uzbek SSR Ministry of Forestry should be concerned about the preservation of protective forest cover and should restore it where it has been destroyed.

11574
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BLAST FURNACE SLAG USED TO MAKE GLASS, CEMENT ON LARGE SCALE

Moscow VECHERNYAYA MOSKVA in Russian 7 Jun 83 p 2

[Interview with Igor' Vasil'yevich Petryanov-Sokolov, Hero of Socialist Labor, winner of Lenin and USSR State Prizes, and academician, by B. Yakovlev; "How Much Are Waste Products Worth?"]

> [Text] Surely, few of us Muscovites who visit the Sheremetyevo Airport or the Moskva Department Store think of the term, "crystallized slag glass."
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> "However, this technical term is well-known to specialists, who know that the dressy face of some well-known buildings in our city is nothing else but...waste products of recent origin," Hero of Socialist Labor, Lenin and USSR State Prize Winner, Academician I. Petryanov-Sokolov says in a conversation with a VECHERNYAYA MOSKVA correspondent.

"The country's blast furnaces yield about 50 million tons of slag per year," continues Igor' Vasil'yevich.

"The vast dumps that have piled up over the years take up land, and their upkeep costs 30 million rubles per year. Do you sense the scale of the problem? The ecological harm done--pollution of the soil and underground water, the clouds of wind-blown dust, harvest losses, the destruction of wild life, and so on--must also be considered. Recent work by the Institute of Problems of the Integrated Development of Mineral Resources, the Institute of Mathematical Economics, and other AN SSSR [USSR Academy of Sciences] institutes have enabled the social and economic harm to be assessed with adequate precision. Luckily, all of this harm can be avoided.

"I shall not tire the specialists with tales about the industrial conversion of waste slag into a useful substance. I will say that blast-furnace operation is now planned to include the output of crystallized glass slag and other building materials, which can be considered secondary products of smelting, as well as pig iron. Moreover, the use of blast-furnace slag in cement is now replacing about 27 million tons of clay and other natural raw materials. And so problems of the economy and of ecology are being combined.

"I recall that the technology for obtaining crystallized slag glass was suggested by scientists of the famed 'Mendeleyevka'--the Moscow Chemical-Technology Institute, and it found implementation at many of the country's enterprises."

[Question] One can speak here about the collaboration not only of science and practice but also of collaboration of those actually doing the work--metallurgical and building-materials industry workers--in overcoming bureaucratic barriers.

[Answer] The problem is, in essence, complicated, but the key to its solution is the creation of waste-free or low-waste technology. Karl Marx spoke about the two components of the economies that are engendered by the development of science and technology: "the secondary use of production waste," in the first place, and, in the second, "reduction of the amount of the waste products themselves."

Already today the cost of purification structures for enterprises often consumes about a third of capital investment, and this share is rising. Moreover, one must not forget that any "purification" is an added technological process, and, as a result, a product is obtained that is unnecessary to society, is foreign, and is, consequently, harmful to the natural environment, and, furthermore, it is extremely costly.

I repeat, one can count only on waste-free or low-waste production or regional industrial complexes, whose principles of being can be compared with Nature's systems. In Nature itself the products of the vital activity of some creatures are needed by other creatures, and everything is utilized in the huge cycle of the biosphere.

The Scientific Councils of the AN SSSR and the USSR State Committee for Science and Technology have analyzed the state of technology for all the main branches of industry. The analysis indicated that the overwhelming portion of waste products has been eliminated. Unfortunately, very often one can encounter technological processes that have not been developed adequately, errors in design, a lack of discipline, and incompetency in equipment operation. These lead to enormous losses of expensive natural raw materials and to environmental pollution. Of course, new technology is needed, basically. There is a definite backlog of accomplished scientific and design work here. Introduction is the bottleneck.

I say with pride that Soviet scientists and designers were pioneers in the creation of a sulfur-scrubbing installation for thermal electric-power stations. In due time one of Moscow's TETs's was equipped with one. Its annual output is 10,000 tons of most valuable, 100-percent raw material for producing sulfuric acid and other items. Made out of waste products! The waste was harmful: discharges of sulfur anhydride into the air cause much harm. "Acid rain" that reduces soil fertility is only one such example. The experience of this TETs should not and cannot remain with the Muscovites alone: it awaits wide distribution.

[Question] You were the first to propose the term, "waste-free technology," which has now been adopted by world science. At the same time, Petryanov's

filter, which also cleans waste products--gases, is widely known. And the journal, KHIMIYA I ZHIZN', which you edit, has the department, "Waste Products Bank."

[Answer] Waste products, more often than not, are a commodity that someone needs or that can be converted into an ordinary product. What is needed is only to know where such a commodity exists and who can need it.

As for the contradictions in your whole enumeration, these are only apparent. The integrated use of raw materials and the existence of low-waste and waste-free technology--these are a reality and an ideal, one that is high but attainable. Setting the proponents of waste-free production against the proponents of the utilization of waste products and secondary resources and getting them to quarrel is a poorly productive exercise and, moreover, one that hinders a matter that is important to society.

11409
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BRIEFS

EARTHQUAKE IN GROZNYY--Groznyy, 1 Jul (TASS)--Today at 0140 Moscow time there occurred an earthquake in Groznyy (Northern Caucasus). Its force at the epicenter, which was in southwest Groznyy, reached 5 points and in the center of the town 3-4 points. There were no casualties or damage. [Text] [LD011507 Moscow TASS International Service in Russian 1412 GMT 1 Jul 83]

CSO: 5000/153

MATTI AHDE, COUNTRY'S FIRST ENVIRONMENT MINISTER, ON GOALS

Helsinki UUSI SUOMI in Finnish 12 Jun 83 pp 26-27

[Article by Kari A. Nurmela: "Environmental Problem of This Decade is Air"]

[Text] The object of this decade in environmental protection will be the air. A less visible issue than water, air has been given entirely too little attention, the situation is beginning to be alarming.

Energetic measures in the protection of the air are also being promised by future Environmental Minister Matti Ahde, who was in Geneva just a few days ago to negotiate an air protection treaty.

"Our water legislation has become obsolete -- previously, it was assumed that the waters can be developed and exploited. Now times have changed, in the 1980's we must proceed from a contrary way of thinking. The rule of thumb is that water can no longer be used for the benefit of industry -- permits would be the exception."

Matti Ahde has his work cut out for him as the future envrionmental minister. He will have to explain the above kind of changes in thinking. He and the new ministry, as an acting environmental authority for the first time, will be venturing into the thicket of environmental protection, in which it may be possible to become hopelessly lost, and they may end up in the clearing of industrial Finland.

Struggle Over Ownership

Environmental protection will also come into violent conflict with people's fundamental rights, the most important being ownership.

"The ownership struggle is only just beginning. Conflicting interests will become seriously intensified in this struggle. Ownership represents a factor that will complicate environmental protection. On the other hand, it is a reality with which we must somehow learn to live.

"On the other hand, there must be some kind of limits in questions of compensation. The demand in the Ounas River incident to be compensated for the lost energy benefit is a demand which cannot be met by the state because of limited and insufficient resources."

The new environmental ministry is generating many kinds of feelings -- on the one hand, industry awaits it with fear, on the other hand, the environmentalists await it with great hopes.

In any event, the environmental ministry, which begins its work on 1 October 1983, is necessary -- until now environmental issues in Finland have been neglected.

The most important task of the future envriornmental ministry will be to control the industrial emissions that are destroying the environment. Matti Ahde states that progress in a better direction is being made -- a number of measures have already been taken to reduce pollution.

"But much stricter and more precise limits must be established for the construction of new industrial plants and for the reorganization of old ones.

"For example, the emphasis in air protection will be on new plants, it will be economically possible to determine stricter limits for them with respect to atmoshperic emissions.

"We would have made the laws even stricter, but the rightwing majority in parliament prevented this for the very reason that we were entering an area in which infringement on the right of private ownership had to be taken into consideration."

Bleaching -- A Difficult Problem

The wood processing industry, which has had to use chlorine bleach for economic reasons in the bleaching process of paper, in particular, has for a long time already been the major pollutor of water (and air). The result has been a high content of lignin in the lakes and rivers. The water becomes polluted, the shores become eutrophied.

There has been talk about a better alternative, oxygen bleaching -- however, this is more costly than chlorine. As far as is known, the Swedes are using an even better method with respect to bleaching.

The most recent example in Finland is Metsabotnia's Aanekoski Plant, which is dumping its waste water into Lake Paijanne. Public opinion is demanding cleaner water from the plant, however, society has not yet become actively involved in this issue.

Ahde takes a cautious stand, but states that: Metsabotnia should do more than it is doing in this matter."

However, the situation regarding water is relatively good according to the future environmental minister.

"The situation in our waters improved essentially in the 1970's. Even though not everything possible has been done, something has, however, been done all along.

"Even though the waters continue to be burdened with waste products, we have been able to interfere with stricter regulations in connection with changes in each industrial process.

"It must always be remembered that the productivity of an industrial plant must be maintained -- we cannot burden them with excessive economic pressures."

The Air Is in Danger

During the time that water has been the major concern, another important element of nature has become more and more polluted -- air.

"It is important for industry and nature to work together. Hopefully, the environmental ministry will play an important role in this. What is most important is that environmental protection measures be adopted when they are still the most economical," states Matti Ahde, the future environmental minister.

The air space is not yet very well known or understood, a particularly interesting point is the detriment to the environment caused by fallout from the atmosphere.

Now there is a movement throughout the whole world to deal with impurities in the air. At the first World Environmental Congress in Stockholm in 1972 it was confirmed that the seas are improving, but the air is becoming polluted.

"A report concerning the condition of the environment was recently completed in Finland and it came to the same conclusion. The more that is known about the air, the more alarming the situation seems to be."

Impurities in the air have a serious effect on water, among other things, -- in Sweden, for example, 4,000 lakes are already devoid of life because of acid rains.

In Finland two-thirds of all the acid rain comes from abroad. Therefore, we must become particularly active in matters of air pollution. Our forests and their growth are being endangered.

"We are striving to influence international regulations in such a way that our competitors would strive to achieve the same emission restrictions in their processes as we have in Finland."

A few days ago Matti Ahde attended a ministerial conference in Geneva where the signatory countries to a treaty on the long-distance migration of air pollutants deliberated timely problems regarding air pollution.

"We are attempting to push through a joint Finnish, Swedish, and Norwegian proposal, according to which sulfur emissions would be reduced by 30 percent over the next 10 years. The countries of Central Europe would be prepared

to do this, but, on the other hand, the Socialist countries, the USA, and England did not consider that they could yet enter into such an agreement.

"West Germany has already made its own decision to reduce sulfur emissions by 50 percent."

It was unanimously confirmed at the conference that air pollution problems are more serious than what was expected.

"In addition to sulfur, there was also a discussion of nitrogen, which enters the atmosphere from pretty much the same sources as sulfur. Nitrogen problems will become a serious issue after sulfur."

There was also an expression of concern about the ozone layer in the atmosphere, which is being destroyed by aerosols.

Eliminate Lead in the 1990's

Industry emits into the atmosphere large quantities of sulfur (in Finland already a million tons annually), which appears to be a troublesome substance in many respects. It is also problematical for industry, which will be subjected to stricter purification measures by the environmental protection law. Industry will have to triple its efforts in the adoption of protective measures.

Decisions have already been made on the basis of the air quality control law -- the lead-content of gasoline was reduced from 0.4 to 0.2 grams per liter. This measure meant an investment of 200--300 million markkaa for Neste.

"The long-term goal is lead-free gasoline -- but the present solution is sufficient until the end of the 1980's," states Ahde.

Air quality control is still in its infancy with respect to supervision -- at this time there are not enough officials who would be able to supervise the purity of the air.

Starting next April production plants must submit an air quality control report to the provincial government. It has been only recently that Finland has appointed air quality control inspectors in five provinces (Uusimaa, Kymi, Hame, Turku and Pori, and Oulu). The remaining provinces will be assigned inspectors next year.

In the municipalities the administration prescribed by law has not yet been established -- the boards of health have acted as environmental protection authorities. A law regarding environmental protection boards for the municipalities is now being prepared.

Not Just a Rubber Stamp

Understandably, the average citizen does not yet have a clear picture of the function and purpose of the new environmental ministry -- it is still being debated.

Many fear that this ministry, which is to be the environmental protection authority, will become a silent conformer and will operate under industry's conditions.

"This will not be the case," argues Ahde.

"Our primary task will be to bring an environmental protection viewpoint into our administrative system. The task of government will thus be to balance the various interests.

"Naturally, we will attempt in the ministry to make such proposals which will have a realistic possibilty of being implemented."

When the new ministry comes into being, its first task will be to change the water law in such a way that it will no longer be a water-development law. As its first responsiblity the new ministry will have to compile a code of standards for notifications and permits. No such system yet exists as far as air quality control is concerned.

The organization of water management is still open in its entirety. The work of the Ettala Committee is completed and the report is now being circulated. The intent is that all water management issues will be transferred to the environmental ministry in 1985 and that the Water Administration will cease to exist in this connection.

The gravel from the protection of ridges will also immediately begin to trickle into the lap of the new environmental ministry. Ridges are also a difficult question, admits the minister, as there will be a conflict over economic interests. It will be easier with respect to bogs.

Matti Ahde will be taking possession of the portfolio of Finland's first environmental ministry. The decision is no longer surprising after the fact that he dealt with environmental issues as an interior minister.

On the other hand, the activism of the Social Democratic Party in environmental protection issues has caused astonishment.

"It is true that the Social Democrats have emphatically worked on behalf of industry, and in practice this has meant solutions which have hurt the environment -- there is no denying this.

"However, we have done some reevaluating with respect to environmental protection," states Matti Ahde.

"We have reached a phase in which the workers' movement no longer measures everything with the markka.

10576
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AUTHORITIES BAN PCB IMPORTS, SEEK MEANS OF DISPOSAL

Helsinki UUSI SUOMI in Finnish 15 Jun 83 p 8

[Article: "PCB Imports To Be Immediately Banned"]

[Text] The importing and manufacture of PCB-substances and equipment should be immediately banned. The committee dealing with this issue considers that even otherwise PCB-substances and equipment should be eliminated from use within the next 10 years. After this, PCB would only be permitted in research and laboratory work.

The PCB committee submitted its proposal on Tuesday to Environmental Minister Matti Ahde (Social Democrat).

The committee states that the PCB-equipment already in use should be gradually discontinued. Equipment containing PCB should be eliminated from foodstuff, fodder, and medical industry facilities as well as service and maintenance plants and waterworks by the end of 1985. Equipment being used in other inside facilities and workshops should be eliminated by 1989.

Transformers and power condensers located in outside or detached structures can be used until 1995. Small condensers can be used until they are exhausted.

Fire and electrical inspectors should determine the location of PCB-substances and equipment as soon as possible. Precise instructions should be given with respect to the maintenance and use of equipment still in use. Occupational safety officials, for their part, should issue safety instructions regarding PCB at job sites.

The committee would give the municipalities the responsibility of storing and receiving PCB wastes from residential buildings, maintenance and service plants, and waterworks. Suomen Ongelmajate Oy [Finnish Hazardous Waste Corporation], for its part, would be responsible for the collection, possible temporary storage, and disposal of such waste.

The committee considers the study of PCB-substances and equipment to be especially important. Among other things, it would like to see a study of the depletion of PCB-substances in nature and their impact on the environment.

Also the effects of chemicals causing other dangers on the environment and people should be clarified.

Dangerous Environmental Poisons

PCB has been imported into the country since the 1930's. Because of its special electrical properties, PCB-based coolants have spread throughout the world in transformers and condensers.

In Finland PCB was used in paints for ships, lacquers, glues, and copy paper until the 1960's. In the beginning of the last decade Finnish industry voluntarily refrained from the use of PCB in an exposed form. PCB was used in electrical equipment in Finland until the end of the last decade.

It is estimated that there are approximately 110,000 power condenser units containing PCB in our country. The number of condenser batteries is estimated to be 10,000 and they contain approximately 1,500 tons of PCB. Finland's approximately 250 PCB transformers contain 250 tons of this substance.

PCB compounds are dangerous environmental poisons, which can apparently accumulate in humans more quickly than in other mammals. Over a long period of use even small amounts of this compound can cause toxic symptoms and disturbances in the reproductive ability of animals.

Fruitless Efforts

A couple years ago the Central Medical Board proposed that the use of PCB compounds and equipment containing them be limited as much as possible. More than 10 years ago already a conference on toxic substances recommended limiting the use of PCB.

However, there still are no special regulations concerning PCB. Only in safety regulations regarding the use of electrical equipment issued in 1974 is there a mention of the fact that "the emission into the environment of substances contained in electrical equipment detrimental to human health, such as PCB, should be prevented to the extent possible".

Storage Location Being Negotiated

The Finnish Hazardous Waste Corporation is looking for a place for the storage of PCB waste until the hazardous waste plant located in Riihimaki begins operations in the spring or summer of next year. Also the possibility of exporting this waste to a foreign country is being investigated.

"Negotiations regarding a storage facility are currently in progress. We hope that this matter will be clarified in June," states Technical Diector Matti Vattulainen of the Finnish Hazardous Waste Corporation.

At this point Vattulainen does not want to reveal the location being negotiated.

On Friday the Vantaa Health Department issued instructions that PCB waste stored without a health department permit at Vantaa's Seutula dump be removed. The waste, which is originally from four different locations, is now stored in three 200-liter barrels, which are located in the enclosure of Helsinki's Kylasaari waste disposal plant under double lock.

Engineer Kurt Hagman at the waste management plant of the Cooperative Council of the Capital City Area states that the barrels contain one condenser, oil taken from small condensers, and packing material. He estimated that there is 20 liters of PCB oil at the most in the barrels.

Risk Is Minimized

PCB is a second-class toxic, which in a fire, for example, could become gasified, at which time especially toxic chlorine compounds could be formed.

"PCB is in some instances a dangerous toxic. However, I am of the opinion that correctly handled, as it now is, the risk is minimized. At Kylasaari it is a question of temporary storage. Now we are waiting for the next move," states Hagman.

"Gasification occurs only when PCB is burned. It is a question of hundreds of degrees. There is no possibility tht the PCB waste stored at Kylasaari will become gasified."

"PCB contains components which can become gasified and turn into steam at a temperature of more than 200° Celsius. The actual super-toxics do not begin to form until a temperature of several hundred degrees is reached," states Professor Antero Aitio of the Occupational Health Institute.

Aitio states that dibenzofuran, which is one of the super-toxics, can be formed from PCB. This chemical has toxic effects similar to dibenzodioxide, which has caused cancer and tumors in laboratory animals.

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MANZANARES RIVER POSING ACUTE POLLUTION PROBLEM

Madrid YA in Spanish 12 Jun 83 p 18

[Article by Gabriel Carvajal]

[Text] Draining of the Manzanares River by the Madrid City Council on the 20th of this month can cause sanitary problems inasmuch as the river is to be drained in order to study its bed bottom. The purifying plant will be shut down for a few days which, according to experts, will result in an approximate 8 percent increase in contamination of the residual waters.

People living near the river bank were complaining a few days ago about the deplorable situation in which the river finds itself, converted into a sewer which gives off foul-smelling odors and swarms of mosquitoes. By draining the river, a study of its bed will be undertaken with the hope that the final result will be a "new river bed" of crystal clear water, but this is still a far off dream.

For some experts, draining the river during several days runs serious health risks. Jesus Espelosin, head of Urban Affairs and Basic Infrastructure of the Madrid City Council has stated that the increase in river pollution as a result of the work to be done in the upcoming days is of little concern. However, a spokesman from the Provincial Health Office stated yesterday to this newspaper that draining of a river that crosses the urban heart of Madrid with such high pollution indices is something very serious, that it ought to be studied carefully because it can bring about health risks.

What is strange is that in an operation such as this there has been no cooperation between the Madrid City Council and the Provincial Health Office. The latter, according to statements to YA, was ignorant of what the plan was for draining the Manzanares River, and the consequences since these could come about in terms of how the talks and operation of the purifying plant interd to be carried out, which it appears will be absolutely restricted during the days while draining and taking of river samples lasts.

What appears more than likely is that the bad odors and mosquito plagues may increase beginning on the 20th and until the work is completed. The already self-sacrificing people along the bank of the Manzanares are going to have to put up with an increase of those typical problems that flourish each summer.

The responsible municipal officer, Mr Espelosin, has given a graphic example of the situation: "This is like an ill person who has to put up with the bother of a surgical operation; he has a hard time of it, but later gets well again." The people along the Manzanares bank hope the operation will be short, minimally painful and with complete recovery.

According to technicians, the grave health risk is centered around the gardens that use water from the Manzanares. It has been said that the water shunted into the Tagus River, with greater contamination when the river is drained, can affect the strawberry crops in some areas in Aranjuez. This is not very likely because taking water from the Manzanares into the Tagus is minimal and for that reason is not going to increase pollution in the latter in any appreciable way.

Nevertheless, such pollution can be of importance in the vegetable gardens at the municipal boundary of Madrid, where vegetables and greens are watered with water from the Manzanares. The former Provincial Health Headquarters recommended, as soon as summer arrived, to prevent possible cases of gastroenteritis through ingestion of contaminated greens and vegetables, that they be rinsed with chlorinated water, putting one drop of lye per liter of water. In this specific case, great care with the measurements will have to be taken and it is necessary that either the City Council or the Provincial Health Office give some training to Madrilenians in this regard since vegetables and greens watered with Manzanares River water are sold in the open market, sometimes secretly, and they carry a health risk, a risk that will increase in the next few days as the pollution level in the Manzanares River rises.

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